



House of Commons
Science and Technology
Committee

**The Forensic Science
Service**

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Volume II

Additional written evidence

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The Science and Technology Committee

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Written evidence

Written evidence submitted by Professor Brian Caddy (FSS 01)

1. The forensic science investigation of a criminal case is a complex process. Briefly, it begins with the assembly of the correct “tools” properly validated for their defined use and processes to the deployment of properly trained and accredited personnel who investigate the crime scene. Most of these personnel are under the control of the police forces as scenes of crime officers (SOCO's) or crime scene investigators (CSI's) but especially in serious crimes some of the personnel will be laboratory based scientists. Where items are found and by whom are recorded and then appropriately packaged and securely transported to either a forensic science laboratory or a police station with its own small laboratory for preliminary screening. These latter laboratories may or may not be accredited by the United Kingdom Accreditation Service (UKAS). All major forensic science laboratories, whether directly controlled through the Home Office ie The Forensic Science Service (FSS), or commercially independent such as LGC-Forensics, Cellmark, Key Forensics, must be accredited under UKAS if they are to present evidence to the courts for the prosecution. Compliance with the accreditation is monitored by the Forensic Science Regulator. The Regulator also has a role in producing manuals of best practice. Of vital importance both at the scene, during transportation and within the laboratory are measures to prevent contamination and cross contamination. This process is a costly one and compliance with legal requirements means that it can also become a stressful one associated with the need to meet time deadlines.

2. There is a misconception that forensic science is simply a series of independent tests. For example, a test on a stain on a garment to determine if it is blood, followed by a DNA test on the cut out stain to determine the origin of the blood. Such tests can be itemised and costed appropriately. Moreover, if the first test is carried out in the police laboratory it will reduce costs to that police force. The problem with such an approach is that while the profile of the DNA may be obtained, the scientist conducting the test will find it difficult and sometimes impossible to interpret the meaning of his findings in the context of the case. This would be exacerbated if there is additional scientific evidence to be woven into the tapestry of the case such as a blood stained footwear mark at the scene to be matched with all, rather than some, of the footwear recovered from suspects. It is not unknown, on the basis of cost, for only selected footwear to be sent to the laboratory. This can mean that the scientist is unable to properly exercise his professional judgement and can lead to the scientist providing incomplete and perhaps misleading evidence to the courts. This cost driven process, in the present economic climate, will lead to a reduction in the number of items the police are likely to submit to the forensic science laboratories but also a demand for a reduction in the cost of tests the laboratories will perform. This is likely to result in an increase in the tests police will perform in their own laboratories. The larger police forces could expand the role of their laboratories and place the scientific investigation into the partial environment of a police force, the investigating arm of the legal process. One must ask is this what justice requires or means?

3. It has to be recognised that the advent of independent commercial laboratories has had a major positive impact on the provision of forensic science in England and Wales. They are much more efficient in turn around times and in cost. They seem to have invested extensively in buildings and equipment, this latter probably more up to date than that of the FSS. This has meant that police forces have placed more and more contracts with these organisations to the detriment of the FSS. It seems that the management of the FSS have not adapted to the commercial environment as they should. Whether this is because the wrong personnel have been employed, or whether the Home Office have restricted their managerial decisions in some way, is difficult to determine but clearly monthly losses of £2 million is commercially unsustainable. Some of the independent laboratories have other interests than forensic science and can operate in other countries, which, should the need arise, gives them greater flexibility in managing economic difficulties. Whether these companies would be able to take on board the 60% of the market presently taken by the FSS and within the time frame of March 2012 is open to question. This would depend upon their willingness to invest in more staff, equipment and perhaps buildings and whether venture capitalists would be prepared to invest. This seems an unlikely eventuality.

4. One major concern however, relates to the generation of research that underpins the operation of forensic science. The FSS have been pre-eminent in conducting research especially in DNA the outcome of which is now established in most parts of the world. Some, although not extensive, research has been conducted by the independent laboratories in the area of DNA testing but such research is only conducted to generate commercial advantage whereas justice may demand research that is not of commercial value such as the statistically based research on the interpretation of evidence. Moreover, police forces will not wish to support forensic science research and will not see the imposition of any premium on costings to support research as a viable option for them in the light of restrictions in their budget. Very few Universities have any research output in the area of forensic science, the strongest research group being at Strathclyde University and this is exacerbated by a great reluctance of the government science research councils to support such research.

5. The question remains, that with the demise of the FSS, if the commercial market for forensic science becomes unsustainable because of restrictions in police budgets, who will undertake forensic science investigations, the few police laboratories? Is this impartial justice? Furthermore, who will undertake the necessary research that underpins forensic science? Is it a mark of a civilised society that justice is worth paying for and that includes forensic science?

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6. It is suggested that the government must plan for vagaries in the commercial market perhaps by establishing a single government funded laboratory under a Ministry of Justice, whose responsibility would be to conduct forensic science research in collaboration with the research councils and the universities and through which the forensic science regulator could establish and monitor standards. Such a laboratory could also be responsible for investigating exceptional cases exemplified by terrorist cases. It is not rational to believe that forensic science can be conducted purely by the commercial market. Even the USA accepts this premise by its use of the FBI, DEA and ATF government sponsored laboratories.

Finally, in order to stabilise the commercial market it may be sensible to consider ring fencing a portion of the police budget for forensic science use.

Professor Brian Caddy

Emeritus Professor of Forensic Science, University of Strathclyde

28 January 2011

Written evidence submitted by Dr Peter Dean (FSS 02)

The announcement of the proposed closure of the forensic science service (FSS) is a decision of which the Government should be ashamed. Let me try to explain why...

As a scientist and businessman, I have often marvelled at the inventiveness and application shown by our academics. The whole world benefits from the molecular biological work of Crick, Jeffreys, Sanger, Evans to name a few. In one of the first cases where DNA evidence was crucial, a man had pleaded guilty to one of the rapes in question; the innocence of this person was proved from DNA evidence and it became clear that a second person named Pitchfork was found guilty of both crimes but had avoided giving DNA in the original investigation. It was this one case that did more to establish the validity of the DNA based evidence in cases like these. The development of the DNA amplification technique referred to as PCR and the science of forensic analysis has been to a great extent the product of our sharpest minds and we should be proud of their work. The future should lie, as stated by others, in the development of: 1) an independent DNA database, 2) an ongoing programme to improve DNA collection and processing (including analysis) and 3) an independent research effort to support these very important goals. There are so many other areas outside forensics that have been assisted in no small way by the work of the FSS; not just multiplexing and sample processing. How the Government expects to keep our support when this particular piece of family silver is closed down escapes me. I did not spend the last 50 years working in this field to receive this closure as a retirement present. I am concerned that we are bequeathing a nightmare to future generations unless we support this vital business. Ask yourself why there are so many TV programmes which incorporate forensic analysis; in other words the media seem to have realised how important this work is well ahead of our representatives in Westminster.

P D G Dean, M.A., D.Sc., D.Phil, F.R.S.C. cchem

Chairman, Cambio Ltd,
Dry Drayton, Cambridge

20 January 2011

Written evidence submitted by Allan McCullagh (FSS 03)

I am writing to you in regard to the the inquiry regarding the examination of the widening down of the Forensic Science Service, I have been employed by the FSS for the last 10 years.

1. The loss of a service like the forensic science service will undoubtedly mean a dumbing-down of the forensic science capabilities of England and Wales. Further, no parts of the criminal justice system can nor should be expected to run on a for-profit basis if it is to retain pre-eminence.

2. Until 1999 the FSS was part of the Home Office but since then it has been moved out to become a GovCo this move was predicated on the McFarland Review.

One of the general tenets of the McFarland Review of the FSS¹ was based upon the concept that the FSS was the best in the world and, that by exposing it to the private sector ethos, it would become even better in the future. This view, of moving the national forensic science body into the private sector, was at odds with the rest of the world's attitude on forensic science. The only exception then was USA but, since then, a recent National Academy of Science report concluded, "*Congress should establish and appropriate funds for an independent federal entity, the National Institute of Forensic Science (NIFS)*"² in order to overcome a number of perceived weaknesses within their disparate forensic community.

3. On 14 December 2010 the parliamentary under secretary of state for the Home Department (James Brokenshire) announced that the FSS was to be wound down because "*the current challenging forensics market has put the FSS back into serious financial difficulty. FSS is currently making operating losses of around £2 million per month. Its cash is due to run out as early as January next year. It is vital that we take clear*

and decisive action to sort this out. The police have advised us that their spend on external forensic suppliers will continue to fall over the next few years...”³

The announcements stated aim is that “A competitive market can help to drive down prices and improve turnaround times, meaning serious crimes can be cleared up more quickly and efficiently”.³ This experiment has, demonstrably, not succeeded in the past and I do not believe it is the panacea for the future.

4. This Utopian market place has been further distorted by the customers who are in-sourcing the relatively easy forensic science functions and, with the national framework for tendering, commoditising the more complex procedures. Thus the police believe they will be spending less on external suppliers—the cost to the criminal justice system (CJS) has not necessarily gone though. Further, the quality and the rigour that the FSS applies to forensic science far outstrips that of the police service and, therefore, I am apprehensive that the police seemed having an undue influence in the decision making process of the outcome of the FSS.

5. That the Forensic Science Service is making a loss should be set beside the “losses” that other parts of the CJS make namely the Police Service, the Crown Prosecution Service, the Prison Service and the Probationary Service. Law enforcement should surely not be judged by using an accountant’s balance sheet.

6. England and Wales need a forensic science service of excellence and of last resort; that is an organization that can continue to research and develop new processes and procedures not solely in an academic vacuum but also in the application of real case work. To lose this cutting edge aspect will surely mean, once again, that the UK will become second-best and have to start to importing expertise from abroad. Further, what is to happen when there is a major terrorist outrage? There is a need for one forensic body, with all the disciplines, in sufficient quantities, to be able to react appropriately without having one eye on the financial “bottom line”.

7. Without a lead or centralising body, which lies outside of the provincial and parochial police overriding desire for “quicker and cheaper”, there will be a stagnation of forensic science in this country. Thus, where we lead the world we will be reduced, like the automotive industry, to component making.

8. It is my understanding that the Home Office has yet to decide on what the precise way forward will be with the FSS’s wind down. Consequently the effect on jobs is not yet known. Therefore I request that consideration be made to maintaining a centralised publicly owned, but independent of the police, forensic science entity which can be retained as a centre of excellence, innovation and development.

Allan McCullagh

20 January 2011

REFERENCES

¹ Home Office, Review of the Forensic Science Service: Executive Summary, (July 2003)

² Strengthening Forensic Science in the United States: A Path Forward, National Academy of Science, 2009

³ <http://www.homeoffice.gov.uk/publications/parliamentary-business/written-ministerial-statement/forensic-science-wms/>

Written evidence submitted by Geoffrey Hanson (FSS 04)

1. Was an in depth review of the Service carried out by The Board and Senior Management to establish whether any reorganisation would make it more cost effective?

2. The FSS is a world renowned organisation which could be The Centre for Forensic Science in Europe, and also The Commonwealth.

World Class Scientific Organisations are expensive, but the export value is hugely profitable. Had any consideration been given to maximising the export earning power of The FSS?

3 The FSS is a world leader in Forensic Science Research. Who would continue this research if The FSS was closed?

4. What is the basis for evaluating the cost of solving complex crime and Terrorist Activity?

5. Are the competing private companies Cherry Picking?

6. Who will monitor the quality of university degree courses in Forensic Science?

7. Have The Coroners Society and The Crown Prosecution Service been consulted?

8 Have The Prime Minister and The Minister for Business, Innovation & Skills been consulted on whether they would promote The FSS on their World Business Tours?

9. Have The Minister for Europe and The Rt Hon Lord Howell who is responsible for Commonwealth Affairs been consulted?

10. Have The Secretary of State for Justice and The Attorney General been consulted?

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I have no financial interest in this is issue.

Geoffrey Hanson

23 January 2011

Written evidence submitted by Mrs Jennifer Button (FSS 05)

1. I am a forensic scientist specialising in the field of toxicology; the measurement and interpretation of drugs and poisons in the body. I write as one of the FSS's newest recruits, having been actively recruited in August as part of the transformation programme. I have 13 years of experience in forensic science, having joined the FSS after renouncing my position as Head of Forensic Toxicology at St George's University of London, to join what I believed to be a world class forensic organisation. Through my background I have had experience of clinical/NHS, private and now government funded toxicology services, and have developed an understanding of their relative advantages and disadvantages.

2. Putting aside my own feelings of betrayal and disbelief at having left secure employment, following active recruitment, to be faced with threat of redundancy without prospect, I am disappointed that the closure pre-empted any benefits that would result from the transformation programme already underway. The closure of two laboratories; Chepstow and Birmingham, the imminent closure of a third; Chorley, and loss of 750 staff saw FSS on course to recovering costs by March 2010. With experience learnt from closures underway at these sites, it is apparent that the proposed time frame for an orderly exist of the entire service from the forensic market is at best an unrealistic ambition!

3. Currently, as the market stands, there are no other forensic providers able to absorb the work of the FSS, which carry 60% of the market. A recent demonstration of my point is a drugs contract lost to LGC. The staff (16) were TUPE'd over and all took redundancy, since the countries second largest forensic provider could not accommodate them. In light of this, how does the Government propose transfer of 60% of forensic business seamlessly to other providers, especially given the proposed time frame?

4. It is inevitable that work would be disseminated to emerging private companies and that larger police forces will chose to provide their forensic science in house. The fragmentation of work will lead to duplication of effort and loss of strategic intelligence. A post code lottery of justice will emerge. Imagine for comparison closure of Tesco supermarket chains, and customers forced to rely on corner shops which charge premium prices for a smaller selection of poorer quality, dated products. These alternative providers are often poorly regulated and do not have the accreditation scope that the FSS has and is justifiably proud of.

5. The customer is not always adequately equipped to gauge the validity of the products offered by other providers. Whilst many accident and emergency departments are set up to provide cheap and rapid drugs of abuse screens to assist patient management decisions in cases of overdose, their methods are not adequate for detection of drugs in a potential drug facilitated assault victim reporting days after the incident for example. Whilst this lab may present a report apparently covering the same drugs as the FSS, the reports are worlds apart in terms of intelligence. To use an analogy; the bridge is the easiest and fastest means of crossing the river but in taking that path one misses all the scenery that the alternative route offers. Reducing, fast-tracking, diluting and making profitable forensic science will inevitably lead to miscarriages of justice!

6. If we consider the existing losses, reported by media to be in the region of 2 million a month, we are talking about a cost to the government of 24 million a year to run a "service" which provides criminal justice. I question how this compares to the finances necessary to deliver a police "service"? The recently announced 100 million pound "budget cuts" to the London force alone put the actual cost of policing in the UK into some sort of context! Surely criminal justice is run at cost not profit or loss basis? If the police do not have the support of a tested forensic science service to corroborate and strengthen their evidence in court, then their efforts are in vain.

7. We are in a market where there is effectively only one customer; government funded police forces. To profit from them is akin to taking with one hand to give back with the other! With all the police budget cuts it is no wonder the profit you desire is unachievable! This has been evidenced by the exit of one forensic provider (Eurofins) from the market already and site closures and financial struggles for the second place market leader, LGC.

8. How do we know the police can undertake the work cheaper? The costs associated with in-sourced forensic work is not properly accounted for and so may be perceived as "free" since no figure can be attributed to losses. How does one demonstrate the impartiality of forensic works undertaken by the police? The integrity of this work is likely to come under greater scrutiny in court.

9. Currently the UK's national security is under serious threat of terrorist attack. Vital intelligence resulting from related forensic investigations has always been entrusted to the FSS, the only provider able to perform all necessary examinations. In its absence vital investigations will become disjointed and the safety of our country compromised. It is logical to send all forensic evidence to a single source.

10. It is ironic that whilst the UK moves away from its current model of forensic science, the United States moves towards it. We have a world class formula!

11. I wish to voice my dismay at the Governments decision to close the FSS and can only hope that this inquiry will provide the necessary evidence upon which to change this decision.

Mrs Jennifer Button BSc, DipFMS

23 January 2011

Written evidence submitted by Justin Scott (FSS 06)

I am contacting you in relation to the recent announcement that the Forensic Science Service (FSS) is to be “wound up” within the next 12–15 months.

I have been an employee of the FSS for 13 years. I have witnessed many significant advancements in forensic Science during this period, most pioneered by the FSS, alongside a genuine drive for continual improvement in service provision and setting of and adherence to the upmost quality standards in the industry.

The competitive market model simply doesn’t allow for the provision of all aspects of forensic science and it never will, only a few simple to process, routine testing portions. No one will want the complex multi-discipline murder work or the enormous terrorist investigation work that the FSS has dealt with so, so often. The increase in the levels of bureaucracy and administrative waste due to contracts and tendering is really sickening.

The FSS has never been able to truly compete in the market as we are the backstop for everything. Saying “we can deliver X amount a month to a specific turnaround and price” is easy for our private rivals. We have never enjoyed that luxury as the minute there is some large terrorist event, someone throws paint at a Royal vehicle or an angry mob smash their way into the Conservative Party HQ, everything is rightly focused on that work. This is obviously to the detriment of “routine” service provision, against which we are being so ruthlessly judged. Just keep in mind that any fully private company will have the ability to simply say “no, we’re not doing it”. What then?

The collective expertise within the FSS is vast and one it’s major strengths is our collective capacity to respond to and deal with anything.

The provision of forensic science at the highest level requires more than a few power-points and some well intentioned promises to deliver. The validation of processes and techniques, the training and constant up-skilling of the workforce, and the ability to regulate, monitor and maintain standards is vital. There are now so many small police force “laboratories” trying to do a cheap approximation of our work, with no adherence to the same quality regulation or audit. Often they are just “having a go” at things and re-learning lessons that the FSS have already overcome through many years of experience.

The FSS needed to change and it really has, beyond the expectations of most in the industry I would suggest. The recent transformation process that the FSS had been undergoing was more or less on target to the pre-agreed plan and really just on the verge of implementation. The transformed processes, particularly in DNA profiling, would have been ground breaking and once again served to up the standards of service provision in the industry and globally. After such a level of investment in this process to me it is utterly, utterly ludicrous not to give this the time to demonstrate it’s massive efficiency gains.

We at the FSS have been treated appallingly by one disinterested minister after another. This decision is short sighted and reckless in the extreme, so obviously taken without any true understanding of the role the FSS serves or the reality of future service provision. I know that the country is mired in massive debt and radical cost cutting is essential. However, the FSS has already swallowed the money it needed to change—in the grand scheme of things it’s closure will ultimately, over time, cost the country so much more. Of this I have no doubt.

Justin Scott

23 January 2011

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Written evidence submitted by Andrea Grout (FSS 07)

What will be the impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?

1. The UK is currently the proud world leader in the field of forensic science, and the FSS is a huge contributor to this leading status, via commitment to world-renowned research, as well as decades of casework experience. Organisations around the world strive towards the high standards set by the FSS. The FSS also works in partnership with organisations around the world, to try to further improve aspects of the forensic science community with innovative research and product development.

2. Closure of the forensic science service will shake the foundations of the forensic science community. The inevitable uncertainty in the forensic science community that will follow, and lack of guidance, from a leading organisation made up of decades of experience, will devastate the organisations that remain. The workload alone will be too large for existing private suppliers to cope with, even with Police forces increasing their levels of in-sourcing. Not to mention certain specialist disciplines which are currently only provided by the FSS. It is unacceptable to lose certain scientific disciplines altogether, and swamp the market with the remaining workload to the point where the criminal justice system will suffer. Certain types of work will not be able to be done due to the loss of expertise. Other work may not get done simply because there is not the capacity to do it. In addition, it is plausible that the “market” may reach a point where work will only be done if the price is paid (for example, victims of crime who can afford to pay will receive forensic services, but others who cannot afford to pay will not receive appropriate forensic services).

3. From a development point of view, forensic science in the UK will suffer greatly, and therefore forensic science world-wide will also suffer. In the same way that the forensic casework carried out by the FSS (60% market share) is too large to be simply “picked up” by alternative providers, closure of the FSS will leave a gaping chasm in the research arena. It is unreasonable to expect the current levels of research and development to continue after closure of the FSS (eg via universities and other institutions). Research and development also requires the knowledge and expertise of not only those staff who work in the research and development departments, but other operational scientists with casework experience. Together, all this knowledge and experience drives projects forwards, and develops new techniques, products, and methods which benefit all providers who carry out operational work, as well as improving upon existing standards and processes.

What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

4. The quality of evidence that enters any forensic science laboratory is beyond the scientists control. It is dependent on the quality of the crime scene management and police work that precedes the scientist in the forensic chain. In the same way, the quality of scientific evidence that leaves the forensic science laboratory, and ends up at the final point of the forensic chain, (the courtroom), lies ultimately with the scientists who do the work. The quality of evidence in court is therefore entirely dependent on the integrity, knowledge, expertise and experience of the individuals who carry out the work, and is of utmost importance when considering both quality and impartiality. What makes the FSS the world leading forensic science organisation is exactly that, its people.

5. What will happen to the hundreds of highly experienced scientists upon closure of the FSS? Some may be able to take up employment with a “competing” supplier such as LGC or Orchid Cellmark. Some may become employed directly by police forces that are expanding their pool of scientific staff in order to cope with higher levels of in-sourcing. But many will be lost from the field of forensic science completely. With loss of these people, the UK forensic science market loses some of its most highly experienced forensic scientists. To lose decades of valuable experience, will set the UK forensic science market back many years, and will have a harmful impact on both the UK and global forensic science community.

6. The government plan to allow police forces to in-source an even larger proportion of their forensic work than they currently do already, is a nonsensical one in terms of quality and impartiality. How can forensic scientists be expected to hold existing high levels of impartiality, if instead of working as part of an independent organisation, their direct employer is a police force? The conflict of interest alone is enough to impact on impartiality to an extent that would lower standards across the entire market. Such backward steps cannot be tolerated in our criminal justice system.

7. Being the founding forensic science organisation, as well as the largest of its kind, The FSS has always led the pathway in quality standards. Whilst competition from alternative forensic suppliers can be a positive driver in quality standards, the FSS has always carried the responsibility of not just maintaining high standards, but pushing forward with improvements and setting a world wide example. With closure of the FSS, where will this responsibility lie? It is unsafe and irresponsible to assume that this position of responsibility will be taken up by one of the remaining alternative forensic science providers.

What is the financial position of the Forensic Science Service?

8. Although some aspects of forensic science provision can draw financial profit, there are many complex and specialist scientific disciplines which are quite the opposite. These specialist aspects of forensic science

are vital in real life casework, as well as cold cases, despite being deemed as a financial burden to any private sector forensic provider. It is these specialist disciplines which require the highest levels of expertise, but also require financial support to maintain.

9. The FSS has always proudly provided all types of forensic discipline, in order to best serve the CJS, whether profitable or not. Private sector providers have however carefully selected only profitable areas of forensic science, and left specialist, costly disciplines to the trusty supplier of last resort, The FSS. Inevitably, the FSS has therefore suffered financially where other private companies may seem to have succeeded. Clearly, overall forensic science is not a profitable or sustainable business arena. It is an essential service, requiring government support, in order to serve its sole function: to contribute toward a successful criminal justice system.

10. Forensic science is a fundamental service that underpins criminal justice. Whilst it may seem like a financial drain on the UK government, the devastating implications of neglecting to invest in forensic science are in fact far more costly. It is morally impossible to put a price on solving crime.

What is the state of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the Forensic Science Service and the volume and nature of the forensic work carried out by police forces?

11. The current UK forensic science “market” is fundamentally flawed. It is by no means stable, but its current apparent stability comes from the existence of the FSS. The FSS provides certain services that other private companies neglect due to their costly nature. Without the FSS, not only will there be a huge gap in the services provided by those companies that remain, but the workload left behind by the FSS is too great for the current market to cope with. The private sector does not have the experience, skills, or capacity to deliver the work currently done by the FSS. Nor do these companies have the financial potential to expand their current staff and services by taking on high numbers of skilled experienced staff from the FSS. Even if police forces greatly increased their own in-sourcing (which as previously mentioned, brings a host of problems in itself), the work left behind by the FSS would still not be taken-up, to the level required to sustain the current high standards in the UK forensic science community.

12. Not to mention, the cost incurred to police forces in setting up their own forensic laboratories and attempting to undertake services in which they have no expertise. Not only would this be a huge financial burden (and police forces cannot afford to reduce their spending on solving crime), but the subsequent consequences to the CJS would be devastating. Insufficient quality standards and lack of impartiality would result in fewer cases being court-worthy, leading to wasted time and money. It may seem like a reduction in cost at first, but is in fact completely inefficient to try to lower the initial spend, but then have cases subsequently rejected in court due to lack of appropriate quality, impartiality and expertise. It is far better to ensure that a slightly higher initial investment is rewarded by receiving a fair result in court. Compromising on quality, impartiality and expertise in order to try to drive costs down, is in fact counter-productive, leading to waste, and lower conviction rates, and terrible miscarriages of justice.

What are the alternatives to winding-down the Forensic Science Service?

13. Understandably, the FSS cannot continue in its current form. It is underpinning a falsified “market”, inevitably to its own detriment, despite the fact that the government was advised against converting the FSS to a gov-co, and that its demise would inevitably follow. But, with the situation as it is, something needs to change.

The main alternative to winding-down the FSS, is to save the name, status and reputation of this world leading organisation, but to heavily strip back on non-operational staff and processes. Whilst support staff are essential to the effective running of the FSS’ current products and services, there is an extremely top-heavy management structure, and despite the excellent work of the recent Business Transformation programme, there are still areas of the business which could be more streamlined. Had the Business Transformation program been allowed to see through to completion, the FSS could have potential to be much smoother running as a business, and recoup some of its financial losses.

14. However, it is important to remember that the FSS has never received the help necessary to successfully completely transition from being a civil service, to a private business. This is partly due to the fact that, no matter how much the government tries to manufacture a forced forensic “market”, the current “market” is not sustainable. Furthermore, forensic science as a whole is not profitable as a business market, because the potentially profitable areas of forensics will always be counteracted by areas that lose money, due to their costly nature (i.e. in a balanced organisation that provides the wide range of forensic services required by the CJS, profit making disciplines will always be counterbalanced by loss-making disciplines). This is why the past, and future of forensic science, has been, and should remain, a service, not a business.

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So far as they are known, are the arrangements for closing down the Forensic Science Service, making staff redundant and selling its assets adequate?

15. Making staff redundancies, in some instances, will be an adequate step. There may be a very small number of staff members within the FSS who will accept a change in career, willingly leave the forensic science market entirely, take retirement and suchlike. The vast majority though, will be extremely disappointed with redundancy, no matter how “fair” the redundancy package may be. It is not simply the loss of a job that matters in these circumstances. It is a position serving in a world renowned organisation, helping to play a part towards a larger goal: serving criminal justice. And although some staff may find alternative positions within the field of forensic science (working in the private sector or for police forces etc), most will still be hugely concerned for the future of forensic science in the UK, and may be forced out of it due to lack of alternative employment within the forensic science field.

16. As previously mentioned, the skills, experience, expertise and knowledge of the people, is what makes forensic science what it is. Making FSS staff redundant, risks losing a huge chunk of the current level of knowledge and expertise currently available in the UK forensic science community. By nature, forensic science is a field where young graduates will always be interested and intrigued by a potential career, but without experienced senior experts to learn from, and gain experience of their own, any text book knowledge they may have cannot be adequately applied. Thus, the cycle of knowledge and experience required to keep the field of forensic science moving forward, will unfortunately be broken.

17. With regards to selling the “assets” of the FSS, perhaps this may prove a successful short term solution to the provision of forensic science in the UK. But without long term commitment to improvement and innovation, these assets will quickly become dated, and by nature, will no longer be “assets”. Whilst the basic science involved in many areas of forensics remains relatively unchanged, the requirement for continual improvement and innovation is what keeps forensic science as such a valuable tool in fighting crime, and serving the criminal justice system. For example, development of improved products to help recover evidence from crime scenes and maximise the potential evidence extracted from it. Take something as simple as a swab. What use is advanced DNA techniques, if instead of the latest swab technology, police forces chose to cut costs and utilise out-dated, cheaper swabs at crime scenes. The results obtained in the forensic science laboratory will only ever be as good as the evidence submitted to them by the police forces from crime scenes. This is just one example of where cutting costs, actually costs more, as fewer useful results are obtained, and overall, the CJS suffers.

18. Currently, the FSS leads the way in striving to ensure that the various “market-players” work together to ensure that forensic innovation remains a few steps ahead of criminal innovation. Without the FSS, the main driver towards continual improvement and innovation is lost, and the field of forensic science as a whole will slow, potentially to a halt, only to be quickly overtaken by ever-evolving criminal activity.

DECLARATION OF INTERESTS

19. I, Andrea Grout, am a forensic scientist, working for The Forensic Science Service London laboratory since 2007.

Andrea Grout

24 January 2011

Written evidence submitted by John Millington (FSS 08)

If the Forensic Science Service is to close, who will take ownership of important unsolved crime files currently held by the FSS? Clearly, the management of such important files is a costly exercise which presumably sees no financial return. I cannot imagine regional police forces wanting to take on this responsibility particularly if they are also facing government cutbacks.

John Millington

24 January 2011

Written evidence submitted by Mrs Marylyn Godber (FSS 09)

I would like to add my signature to the many. I feel that if this service is cut then it would leave the forensics system open to corruption and countless mistakes that would cost more surely to put right.

Mrs Marylyn Godber

25 January 2011

Written evidence submitted by Alan Calverd (FSS 10)

The importance of a public forensic science service

1. He who pays the piper calls the tune.
2. Forensic science, however meticulous, can only yield an opinion. Where that opinion is bought, the big money is likely to dominate in Court.
3. Where there is a market and a premium on success in Court, regular purchasers will tend to buy from those who win, regardless of the truth. Success breeds reputation and further success. The behaviour of the General Chiropractic Council is a clear example.
4. Thus in the ongoing battle between the accused private individual and the zealous prosecuting institution, whose financial resources are unlimited, justice will be ever more set aside in favour of power.
5. In an era of growing public distrust in corporations and political institutions, and the increasing use of the police force to defend policy rather than life and property, the abolition of a publicly accountable, publicly funded, and genuinely disinterested expert opinion service, cannot be in the public interest.
6. If the system is inefficient, by all means review it and improve it, but do not throw the baby out with the bathwater.
7. *Never* trust a front-bench politician. Ignore the given reasons (the Forensic Science Service deficit is a fraction of the MEPs' expenses budget) and ask "What possible corruption lies behind this?" "Which MPs' wives have shares in private forensic laboratories?" "Would the CPS achieve a greater conviction rate against so-called terrorists if the forensic evidence were 'stronger'?"

Alan M Calverd PhD

20 January 2011

Written evidence submitted by W Folkard (FSS 11)**1. DECLARATION OF INTEREST**

I am currently an employee of Forensic Science Service Ltd. These views are given in my individual capacity and are not those of my employer or any other body.

2. CREDENTIALS

I have worked at the forensic science laboratory in London since 1974; was an Authorised Analyst; have written thousands of statements and given evidence in court on scores of occasions; have held quality management roles; worked on the Royal Society of Chemistry working party on level five NVQ for analytical chemists; have been extensively involved in expert witness training and assessment; and served for seven years as specialty assessor for the now-defunct Council for the Registration of Forensic Practitioners.

3. SUBMISSION

3.1 These observations are a response to question 2, *What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?*

3.2 By way of illustration, let me make a wholly rhetorical proposal for a change to the criminal justice system:

"A judge is required to be impartial but, if he or she is a Crown appointee, must be biased in favour of the prosecution. To avoid this, we should make the judge an independent practitioner, available for hire like any other professional. The judge for any particular case would be chosen by and on contract to the prosecution, who would be free to pick another judge in future if they did not like the way he or she did the job."

3.3 It is, of course, the security of the judge's position which makes it possible for him or her to be impartial: the argument set out in 3.2 is flawed to the point of being preposterous. Those flaws are unchanged if we substitute "forensic scientist" for "judge"; yet this version of the argument has been accepted as the basis of government policy on a "market" in forensic science for the best part of two decades.

3.4 The idea of a market in forensic science provision seems to enjoy wide political support. It is an idea whose success might be measured by the fact that no jurisdiction outside the UK has adopted it (and neither has Scotland). It has meant that the main focus of forensic science providers has been on winning contracts from the police rather than on providing high-quality evidence for the courts. The intense pressure to please clients is at odds with the duty to the court now codified in the Criminal Procedure Rules. Resources which should be spent on scientists, equipment and support staff go instead on consultants and management fads, to people who keep spreadsheets, attend meetings or brief the press. Decisions are made by those whose understanding of scientific and professional matters is—where it exists at all—secondary to commercial skills.

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Forensic science will continue to suffer from waste and falling standards until the “market” experiment is abandoned.

3.5 This point is unrelated to the foregoing but it would be useful to add it here. Many recent recruits to forensic science have first degrees in “forensic science”. Paradoxically, a degree in forensic science is not a suitable qualification to be a forensic scientist (or, I would suggest, for anything else). Forensic science is a collection of highly specialised disciplines and this jack-of-all-trades qualification is little use in any of them. For most disciplines, a qualification in chemistry or a branch of the biological sciences is greatly to be preferred. The proliferation of forensic science courses is undermining the quality of forensic science and should be actively discouraged in the interests of forensic science and of science in general.

W Folkard BA MSc

26 January 2011

Written evidence submitted by John Haley (FSS 12)

What will be the impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?

1. Without the Forensic Science Service in the market place driving things forward, the competitors to the FSS will be able to sit back and reduce spending on improvements. The only reason many of the competitors spent money on improvements in the first place was to gain market share from the FSS. Without a strong FSS leading the UK market, who will push things forward and give a semblance of sanity to a hectic market?

2. The FSS is respected the world over for its investment into new techniques and is not just driving the UK market, but also forensics throughout the world. This cannot be better demonstrated than the winning of the United Arab Emirates database project, the assistance in the database project at the NFI in Holland and the recent publishing of the worlds first fully automated miniaturised device. These projects just scratch the surface of a business that has been leading the way for more than 15 years.

3. I have worked in forensic research for over 10 years and know the importance of experience gained working directly with operational units in developing new techniques. The FSS is quite unique in the fact that all research is controlled in house and little to no help is given from external companies. Without FSS research, who will carry out the essential work required to move things forward? This work cannot be picked up by universities as it requires in depth knowledge of the day to day workings of a forensic laboratory and is not as simple as saying competitors will pick this up. Research is expensive and with prices in the market falling, there is no obvious group who can pick this up. Without a suitable replacement, the individuals who work in forensic research will leave the area and find other jobs, thereby paralysing forensic development in the UK for many years to come.

What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

4. With police in sourcing the likely beneficiary of the closure of the FSS, the movement of forensics back to the police will no doubt lead to more miscarriages of justice and mistakes will be made. You cannot expect a group such as the police to carry out work independently and deliver to the same quality as the FSS has over many years. We will see a repeat of mistakes past which led to bodies such as the Metropolitan laboratory in London joining the FSS.

5. The FSS has never declined any work from police forces in the past and has never put a monetary value on complex cases and any sector of the criminal justice system. FSS competitors have already shown their true colours in recent tenders by actively pursuing the cash cow products and either not tendering for or pricing themselves out of the market for the more complex examinations. It is sad to consider that the criminal justice system will find itself cap in hand trying to make private companies deliver work that is delivered without any questions by the FSS.

6. With so few companies in the market, a lot of start up companies could appear. This could mean many police forces putting their trust in untested companies just so they can get their work completed in what is taken as standard right now. The FSS and several of the competitors have a proven track record, but with pressures to deliver the work without a group such as the FSS around to pick up the slack, the quality in the sector will undoubtedly fall.

What is the financial position of the Forensic Science Service?

7. The FSS has been losing around £2 million a month. A lot of this loss can be put down to a massive re-structuring process whereby redundancy payments and site closures have led to considerable costs. The main issue for the FSS is not where it sits right now, but where it could be in less than a year after the site closures have occurred and the staff numbers make the organisation a far leaner company. If the transformation process was allowed to continue, and in some forms re-shaped to make further improvements, there is no reason why the FSS could back into the black.

8. Forensic research is expensive and such things cannot be expected to always break even in a discipline where the final outcomes can have a huge impact on the criminal justice system. That said, after the transformation process the FSS has created some brilliant products that will not only push forensics across the world forward and also reap the benefits when sold outside the UK.

9. There are many products outside DNA such as fire investigation, documents etc that can actually cost more to investigate than revenue generated. The FSS has balanced this for many years using the cash rich areas such as DNA to do this. The DNA market has been eroded by competitors and the new market place in the past few years. This has meant less money to balance the books, and where many companies gave up on the niche work, the FSS continued to deliver the work at a loss.

What is the state of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the Forensic Science Service and the volume and nature of the forensic work carried out by police forces?

10. There is no real market in the UK and there never has been. You cannot privatise a service, much like you would not privatise the police. You cannot put a value on the criminal justice system. No country in the world has privatised its forensic, and works on a more successful model whereby private sector companies can help pick up any back logs and can be used for defence work.

11. Two of the major forensic companies in the market have either been close to pulling the plug on their forensic division or going into insolvency. With this sort of "market", it could lead to old style back logs as companies go out of business and also force these companies to cherry pick even more.

12. The FSS has around 60% of the market in the UK. The other companies have taken FSS share over a four-five year period, and in this period they have only managed to pick up 40% of what was a controlled situation. How can these companies pick up 60% of the market in just over a year? Its not a simple case of moving production facilities, we are talking about setting up validated laboratories, moving staff and putting controls in place to ensure quality does not suffer.

What are the alternatives to winding-down the Forensic Science Service?

13. Allow the FSS to complete its transformation process, closing all but two sites. After this point ensure the FSS closes at least one further site, which would still leave coverage in the North, Midlands and South of England. Reducing large quantities of the support business such as HR, IT etc would reduce the cost to process a sample and allow the FSS to continue to invest in R&D.

14. Certain services should not be put out to tender. The FSS should continue to be subsidised by the government for areas of work that cannot make a profit, and will always make a loss such as fire investigation etc. The rest of the FSS could then be free to compete on a level playing field with the other companies.

15. Ensure police forces do not continue with their in sourcing plans. This would improve impartiality in the criminal justice system and also increase the available work that everyone could tender for.

So far as they are known, are the arrangements for closing down the Forensic Science Service, making staff redundant and selling its assets adequate?

16. Details are still very sketchy on what will happen to both staff and the company assets. To set a closure date without a plan for such an important business is crazy at best. How can you control the distribution of talent and work without a well thought out plan more than a year ahead of expected closure.

17. One can only imagine a version of a fire sale will occur to ensure timelines are met. The longer things continue without a structured plan, the more staff will leave the forensic sector and the greater the loss will be felt in coming years. Certain units within the FSS are starting to feel the effects of staff leaving, and its surely just a matter of time before the FSS will fail to deliver the current work load.

18. You cannot put a value on the assets within the FSS. Years have been spent developing software, techniques and training staff. Any value received for these assets will not give the tax payer value for money or encourage those staff remaining that forensics is the career path they once fought for.

DECLARATION OF INTERESTS

19. I, John Haley, am a forensic scientist, working for The Forensic Science Service Birmingham (Trident Court laboratory) since 2001. The views expressed in this document are of the individual and do not represent the views of the Forensic Science Service.

John Haley

31 January 2011

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Written evidence submitted by G Burton (FSS 13)

I am writing to register my concern about the proposal by the government to close the Forensic Science Service and I have listed some points below.

1. The Forensic Science Service has always led the field in terms of quality, training and research and it will England and Wales as the only country in the world that will not have a Government or state funded forensic science laboratory. The Government and ACPO say they will ensure security of supply in future and that "continued provision of effective forensics is their priority". Unless they are planning to create a new government or Police funded forensic service they will have no control over how much work the private sector will take on.

2. The independent Forensic providers have always been selective about which services they will cover taking only those which will be most profitable and will not take on difficult and lengthy time consuming tasks. In addition the F.S.S. is the only company which undertakes security clearance a condition of employment which is vital in this increasing risk of terrorist activity.

3. I do not think you can run a forensic service purely based on making a profit as it is a service to the community to protect it and as important as the NHS. The Police have been dictating which tests they want to try and save them money and these are not always sufficient to secure a guaranteed conviction and they have negotiated lower and lower fees, but the private side will dictate the rate of fees and it could end up being more expensive as happened when the railways were privatised.

4. What will be done to ensure the private firms offer the full range of forensic services in the future? If they decide to stop forensic work the Government and ACPO will be powerless to stop them and they will have relinquished any control over forensic services in this Country. Furthermore none of the Private Companies or the Police have invested in any significant research or technical advances. The FSS has been responsible for every DNA technique advancement to date. Since the McFarland Review which advocated the commercialising of forensic science in 2003 there has been virtually no development in forensic DNA.

5. I am sure some efficiency savings could be made to the FSS and more investment in more up to date equipment would speed up testing times and increase the throughput. Since the Police have reduced the number of submissions and increasing the competition may have brought down prices but all forensic providers have struggled in recent years and they may not be in a position to expand to take on all the extra work if the FSS closes and there could be a shortage of forensic science providers and then the police will struggle to get the work done, demand will exceed supply and this will increase prices.

I trust this decision will be rediscussed and a more suitable alternative to complete privatisation found.

I am a retired Medical Practitioner.

G Burton

31 January 2011

Written evidence submitted by Mrs Carol Hannam (FSS 14)

1. Introduction: I abhor the closing of yet again another centre of excellence. Once again the standards which we knew as children and young adults are being dismantled and replaced by an inferior substitute. When will the institutions which are world wide recognised for their excellence be freed from the deliberate acts of decimation?

2. I would like to declare my interest. My daughter is employed by the Forensic Science Service at their London laboratory as a Senior Forensic Scientist. She specialises in the examination of firearms, ammunition and related items and in the interpretation of firearms related damage and gunshot wounds. She has specialised continuously and exclusively in this field since November 2001. She works under her maiden name of Abigail Hannam.

3. The Forensic Science Service has a world wide reputation for excellence, impartiality and expertise. The petition set up to draw attention to the travesty of the closure of the Forensic Science Service has been signed by people from all over the world. The letter to The Times was signed by leading scientists again from all over the world. These thoughts, based on clear common sense, need taking into consideration.

4. At the moment the Forensic Science Service deals with 60% [approx] of the forensic marketplace. When this body of excellence is closed down who will do the work? Where firearms are concerned it is no good claiming that it will be the Metropolitan Police Service Forensic Firearms Unit. They are not competent to do the work as they do not have the required competences to carry out post mortem and 24 hour scene work. Since the Metropolitan Police Service Forensic Firearms Unit—ie in house—decided to take over the Met firearms casework they have in fact sent back to the Forensic Science Service up to 20 cases per week. Is this because they do not have the manpower to deal with the workload or is it, as I suspect, because they do not have the ability, determination and competence to carry it out. As a mere lay person I find it very difficult to

come to terms with the fact that a relatively new department at the Met cannot achieve the outcomes which were expected of it. What will happen when the Forensic Science Service can no longer bail them out?

5. Private companies do not seem able to deal with the problems either. No doubt they will take on the cheap and marketable areas like DNA and drugs. However when LGC had to take on staff from the Forensic Science Service London drugs department they took them on with all their rights of employment and then promptly made them redundant on their first day at work. It does not seem that the private companies have the ability to absorb the excellence of the Forensic Science Service. Why continue to try? If such a big company as LGC cannot do it hoping for the remainder to take it on is a pie in the sky idea.

6. Without the Forensic Science Service who will maintain the excellence of the service, its reputation not only of excellence but of impartiality, the deployment of new and advanced techniques and the world class training services?

7. Somebody somewhere has to pay the bill. Out there are the muggers, murderers, rapists, fraudsters and criminals of every description. These people have to be brought to court and given a fair trial. Who pays for the expertise of the examiners to go into the dock and give evidence? I do, together with all the other millions of tax payers in this country. What do I want? Evidence. I want the evidence to stand up to any barrister either of defence or prosecution from the lowest to the highest courts of the land. How do I and the other millions get this impartial evidence? The only way is to make sure that the evidence is delivered by an expert and the only experts who have this "clout" are those from the Forensic Science Service.

8. Independent, authoritative and impartial provision of expert forensic science evidence and analysis is essential to the proper investigation of crime and the effective prosecution of its perpetrators. One of the dangers of allegedly expert analysis is that many people claim to be expert in aspects of forensic science when, in fact, they are not or, if they are, they have a private interest to protect. In court the prosecution scrutinises carefully whether or not the defence expert is accurately described as such and vice versa. If the expert is an employee of the Forensic Science Service such probing will fail. If an expert is put up to give evidence by the Forensic Science Service it can be taken as read that the expert will have the qualifications, training and experience to justify the title. In the case of the four young cadets at the Deepcut Army Barracks in Surrey who had died from gunshot wounds between 1995 and 2002, the idea was touted by an "expert" instructed by the families of the deceased that these deaths were homicide. The families were of course distressed out of their minds. The media responded and clamour ensued. The true experts from the Forensic Science Service were able to show quite conclusively that each death was a suicide. Their conclusions showed that the "expert" was no such thing, distraught people were played upon and that the problem was not who did it, but why had the cadets felt compelled to take their own lives. The lesson here is clear. It is better to rely on a true expert who can conclusively prove his point, both to judge and jury; that by using a proper expert and not a jumped up quack a conviction can be maintained and secured; that an expert can manifestly be seen to be an expert and that his evidence is completely impartial. When it comes to finances and money saving it is not economically sound to have failed prosecutions and when it comes to the safety of the community it is not sound to have villains on the streets because prosecutions have failed. Let the expert truly be an expert, seen and accepted as such by all right thinking men.

9. Speaking from a personal point of view when my child or grandchild is murdered I want justice to be done. I want the offender punished according to law. This is best served by police attempting to solve the crime. When they do it is essential that they get prompt answers to their enquiries, speed sometimes being of the essence. They need to speak in conference to all the experts under the same roof and at the same time. The exhibits which they wish to submit need to be investigated quickly and efficiently. If a gun is submitted it needs to be analysed for all sorts of things, I would imagine, not only the bullets and their patterns but for DNA, fibres etc. This cannot happen if a policeman has to walk around submitting the same item to different companies in the private sector. Who and how will it be protected from contamination? How speedy will the analysis be? Who is competent to go to the scene and retrieve the bullets and go to the post mortem and gather the evidence? It is the Forensic Science Service and only the Forensic Science Service that can deliver these goods and satisfy my requirements and those, I hasten to add once again, of any right thinking person.

10. People are human and have human frailties. If a policeman works in the same force as the experts working on his case there will come a time when they stop for coffee together and maybe become friends. Judgements become warped and false evidence is given. This may never happen, but surely it must be seen to be apparent that it will not happen because the experts employed in a case are not paid from the same purse. Impartiality must be seen to be happening.

11. The older employees at the Forensic Science Service have such a wealth of knowledge and experience which is found in neither books nor on the internet. It is passed on down the generations of employees in a mentoring service. Where will the next generation of experience come from? Who will mentor the teams outside the Forensic Science Service to make sure that standards are maintained?

12. With the closure of the Forensic Science Service who will hold the vast databases? On who's disc in who's computer will they be lost from? This is the track record of databases held and carried in places other than the Forensic Science Service. Will there be yet another "we are very sorry" message put out when data is lost and maybe picked up by the unscrupulous? Which privately owned company will benefit from selling the

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data and the information which has been inherited from the Forensic Science Service? Who will hold the national collection of guns?

13. On the question of cutting costs, the expertise of the service is obviously in the laboratories where the experts are paid poor salaries, whilst the expense of the service is in the management layers who spend their time in interminable committee meetings and take home huge salaries for spending their days talking and talking some more. What are their targets I wonder and how are they measured. The expertise of the laboratories, once lost, cannot be replaced whereas the middle managers have no particular skills in this area and therefore are very expendable and easily replaced. I would be surprised if the axe fell where it clearly should, because of who wields the axe.

14. Some aspects of a civilised society should and need to be above finance and profit and loss. Some aspects of our culture, democracy and civilisation depend on service. Some parts of our life are not and should not be costed out. The provision of an impartial, excellent, world renowned Forensic Science Service must be preserved. We must take our place on the world's stage with our experts instead of lurking away behind doors of economics and balanced books. The books of a service will not and should never balance. A service is a cost and the populace, in this instance, will be prepared to pay. The only people likely to benefit from the break up of the Forensic Science Service are the villains.

15. In conclusion the Forensic Science Service is a jewel in the nation's scientific crown. It provides impartial, quality and expert opinion for the criminal justice system and remains a recognised world leader within the sphere of forensic science. Its independence has allowed it to innovate and to develop fresh areas of scientific knowledge which has been world-changing. I implore you to preserve it.

Mrs Carol Hannam

2 February 2011

Written evidence submitted by Mr Roderick Hannam (FSS 15)

1. My interest in the proposed closure of the Forensic Science Service is that my daughter is employed by the FSS in London as a Senior Forensic Scientist specialising in firearms.

2. You will have received many detailed submissions opposing the closure of the FSS and I am sure that I shall agree with all of them. I do not intend to reiterate all the points but to tell you how I feel as a native of this country.

3. I see no reason why an organisation such as the FSS has to make a profit. Monitor its expenses, yes, but have to make a profit, no. The £2 million a month loss that has been talked about seems small change to me in the scale of things. You cannot run effective criminal investigations using all the complicated and expensive tests available to obtain either a conviction or an acquittal if you are constantly watching the bottom line. Which tests do you leave out? I want to live in a country where all criminals are convicted but where they all have a fair trial. The solving of crime should be regarded as a cost that we all have to pay.

4. However, the cost can be reduced. With better marketing the expertise of the FSS can be sold more effectively worldwide. The FSS contains world class players and is seen internationally as a place of excellence. I do not think that the potential for exporting their skills has been exploited sufficiently. Recently, my daughter went to give forensic evidence in a trial in the British Virgin Islands. Obviously the laboratory work had been done by the FSS, but all future work in the BVI will now be done in the USA. Why?

5. I strongly believe that the FSS should remain independent from the police. The Metropolitan Police Force do run their own laboratories but do not have the expertise of the FSS, particularly in firearms, and cannot cope with their own workload so have to farm some of it out to the FSS. What will happen when the FSS is no longer there? The private companies that are expected to buy the profitable parts of the FSS, but not the unprofitable parts, cannot be guaranteed to be independent. They cannot be guaranteed to invest in the expensive tests. If you are tendering to get a contract, you keep the quote as low as possible because of competition. This is not how to solve criminal cases. The danger of not having an independent service was highlighted recently in the case of the undercover police officer who found evidence that was favourable to the defence in a trial of green agitators. This evidence was suppressed by the police as it did not suit them. What is to stop them from suppressing inconvenient forensic evidence?

6. As the Government pays for the Metropolitan Police as well, why not close their labs instead? That saving would go a long way to funding the FSS. After all, the Met labs are no help to the other police forces.

7. I believe that it is for the good of the Country that all the disciplines that make up forensic science be housed under one roof and not be spread between several private companies at different locations. If the different pieces of evidence cannot be discussed by people working together and together with the police officers involved then links may be missed.

8. It worries me what will happen if we have a terrorist attack in London or elsewhere. After the last London bombings the forensic work was done by the FSS. The biologists camped out in the hotel next to the labs and

worked round the clock to do the work efficiently and quickly. I cannot imagine that a private firm who has given a tight tender will be able or willing to behave like that.

9. My son is a barrister. He has acted in several cases when the so called expert witness from a private firm is anything but expert. The case then falls apart because the jury do not believe the evidence. He says that when an expert is from the FSS then you can totally rely on the evidence. More guilty people will escape punishment if the FSS is disbanded.

10. Who will be qualified to deal with police shootings if the FSS is not there. The police cannot examine themselves. Private companies will not have the authority of a long established well-respected company such as the FSS.

11. The company is currently going through a planned and Home Office approved transformation process. This has lead to streamlining of the company and the closure of four sites. This was agreed by the previous government who also gave grants to achieve this transformation. This work is on track and would, I believe, have put the company in the black by next month. Why could the FSS not have been given the time to show that this had worked?

12. There is so much expertise and experience going to be lost. Some of the younger ones may get jobs in the private companies as they are cheaper to employ. But not the older ones and not those trained in firearms as that work is not profitable. Who are these younger ones going to get their training from and who is going to fund it?

13. Finally, myself, and all I have spoken to about this, find it incomprehensible that a government can smash an institution of such world renown as the FSS for a couple of million pounds a month. It is a tragedy for those involved but is an even bigger tragedy for the country. Justice in the courts is ill served by this decision and the country is less safe. You cannot send a boy or a girl to do a man or a woman's job. This government, for all its talk and reputation for law and order, seems to be on a slippery slope downwards.

Roderick W Hammam

3 February 2011

Written evidence submitted by Dr Denise Syndercombe Court (FSS 17)

What will be the impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?

1. The FSS has, over the years, had considerable influence on the development and practice of forensic science, not only in the UK, but also internationally, offering training and consultancy support to many countries worldwide. They have a large R&D section employing extremely experienced research scientists who are unlikely, in the main, to be re-employed in the case-work vacuum that will need to be filled.

2. In Europe, most forensic services have grown from university departments of legal medicine. These have never existed in the UK, and there was never the need because of the government funded FSS.

3. This has also meant that there has never been opportunities for funding forensic science research in university departments throughout England and Wales through the Research Councils. Most universities with an interest in forensic science offer taught courses only with limited research taking place as part of student projects. I conduct research in forensic science and fund this, and employ scientists and fund PhDs entirely through forensic work that I bring into my institution as there is no charitable funding available to me. This research is much more limited than I would want because of the need to provide the necessary funds.

4. Other commercial companies working in the UK developed out of the Laboratory of the Government Chemist and organisations involved in DNA testing for immigration and other purposes and about five years ago the FSS also became a private government owned company. Others will need to come into the market rapidly if the approximately 60% of the FSS contracts are to be redeployed to other institutions within the planned closure time.

5. The loss to the future of forensic science stems from this decision, more than its closure now, because any research that was done was not used to benefit forensic science particularly in the UK, or worldwide, but kept in house and promoted for commercial gain.

6. To their credit, I believe that the FSS continued to understand the importance of research in this area and maintained a significant R&D department, although slimmed down and constrained by commercial propriety.

7. I believe that other countries, across Europe and the US, will take the lead in forensic science innovation in the future as they are better and more freely funded—through university funding across Europe and through the National Institute of Standards and Technology (NIST) in the US.

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What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

8. The need for other organisations to take on the major part of existing contracts will provide a considerable challenge. Simply increasing capacity by the companies already in the market will, in my opinion, not be possible.

9. New companies entering the market will need to set up systems that will need to be accredited before they can be considered reliable providers of a forensic service. Even though these institutions might benefit from the large number of trained FSS scientists now on the job market it will not simply be a case of them being employed using the same systems currently in place in the FSS. They will all need retraining and the set up costs of a new or expanding organisation, and the time and cost of accreditation, are not small.

10. The availability of trained staff will depend on where new commercial institutions are going to be based. Staff who will be about to lose their jobs will not wait too long for forensic-related opportunities to become available and they also may have commitments and ties that mean they are not easily able to move to other areas in the country.

11. Quality will inevitably suffer in the interim, not only because of timing issues, because investigation of crime does not stop and the work cannot simply be put on hold. There will also be an increase in crime that will need forensic examination associated with the Olympics in 2012 and the UK is unlikely to have a fully efficient service by then. One of the difficulties here will be pressure applied through the criminal justice system that may result in work not being done to the highest quality levels, which may lead to a miscarriage of justice.

12. The efficient transfer of ongoing cases is a major problem. There is a considerable amount of documentation that is held by the FSS over many years that may need to be re-examined if a case is to be reopened. Where is this material going to be held? I have already personal experience of needing to conduct a forensic examination in which the case is due to start in one week's time and the paperwork has not yet been located since the closure of one of the FSS sites at the end of the year. This problem may also result in the case being delayed at considerable additional expense to all concerned—this is just a single example and there are likely to be many others.

13. Commercialisation does influence impartiality, in my opinion. A forensic scientist has the duty to the court to give evidence only within their expertise but I see some scientists working in commercial institutions who are more interested in “helping” the court by providing “expert” evidence, so as not to allow criticism of their organisation by being unable to answer the relevant questions, than concern over the accuracy of their expert opinion, or even acknowledging this is an area that they do not have the appropriate expertise. I would emphasise that this is not something that always occurs, but it does happen and I would be unaware of the extent.

14. Commercialisation produces products (techniques, ideas, software) for use in forensic science that are not open for examination by others, because they are proprietary and have been developed for financial gain in the market place. That does not fit well with the fair examination of the science which may lead to conviction of a suspect.

15. All that does not mean to say that this work will not be revealed to a scientist who is properly conducting a defence, but it is extremely difficult for someone working outside an organisation to get hold of it, or even be aware of its existence in what is often a very short time after instruction. It is sometimes necessary to make compromises in order to meet the constraints of the court requirements, but then have to reveal to the court that one was not able to consider the matter fully because of the confidential nature of the material that needs to be considered. This may result in the case not being fairly considered by the court, or can result in further delays as the information is sought from the provider. Peer reviewed publication of techniques and processes is a way forward but, even when this does happen, it is often several years after the application has been implemented in case work.

What is the financial position of the Forensic Science Service?

16. I have no doubt that the FSS is currently costing the government a lot of money. I do not believe that a forensic science service can be properly and fully run as a profit, or even as a non-profit making organisation. Forensic science is a service to the criminal justice system and we do not expect, nor should we, expect to run such a service as an entirely commercial venture.

17. Of course it is right and proper that any organisation should be scrutinised and processes should be set up to ensure that it is run in an efficient and cost-effective way. “Cost-effective” is not simply about being able to process the current case-work. Science strives to do things better, but that requires investment.

18. My understanding of the FSS is that, as a government owned organisation, it had already been tasked with producing an organisation that was efficient. There was apparently a programme in place that would make it a better organisation in commercial terms, and closures had already been implemented in order to achieve that end. The new government, however, apparently has taken the view that the current losses must be dealt with by closure, rather than allowing the FSS to achieve its aims in the previously planned time-scale.

19. My belief is that, in the end, this will prove more costly in other ways to the country, although these costs may prove difficult to document—a delayed case here, a miscarriage of justice there, a loss of conviction elsewhere.

What is the state of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the Forensic Science Service and the volume and nature of the forensic work carried out by police forces?

20. Few, if any of the Police Forces will be offering forensic services at the required ISO 17025 or equivalent standard at the moment and development of an accredited service can take one to two years.

21. As mentioned above, current providers are unlikely to be able to rapidly expand to take up the approximate 60% of the market share and new staff will have to undergo training.

22. New organisations will take much longer to get off the ground.

23. The current forensics market responds to calls for contracts by aiming to be cheaper and faster than their competitors. They will do that through the hiring of less experienced staff who they do not value as much in their role as scientists, simply as individuals to process the work. There is, correctly, research that goes on to reduce cost and speed up the process, and competition is helpful in driving that, but if it results in “black box technology” that cannot be fully evaluated, that will produce additional and unseen costs to the criminal justice system, while increasing the profits to the private organisation. That can never be to the benefit of the UK tax payer.

What are the alternatives to winding-down the Forensic Science Service?

24. They could be allowed to continue with the process put in place by the last government but that is not the only answer

25. What is essential is the commitment by the government to provide for sufficient funds so that forensic science research can be done in the UK. The UK has been at the forefront of forensic research worldwide but that position is rapidly declining and soon we will have no voice in an area where I, for one, have been proud of the achievements and the high esteem with which UK forensic science has been viewed.

26. Case-work will, in my opinion, suffer in the short term, with inevitable delays and likely miscarriages, but will in the end pick up. But the fair and just forensic science that has been prosecuted in the UK will no longer continue and will be limited to what can be done easily.

27. Cases that demand more experienced scientific work will no longer be able to be undertaken and it may be that experience will have to be gained, at greater cost, from scientists outside the UK.

So far as they are known, are the arrangements for closing down the Forensic Science Service, making staff redundant and selling its assets adequate?

28. I would hope that someone is considering this, but it is not something that I would be aware of. I am aware that current staff are simply looking for jobs and have no idea where their future lies and do not appear to have received any information that is useful to them.

29. I understand that, as part of the management plans of the FSS, a considerable amount of money has been spent on robotic and expert systems in order to reduce staff costs, with the staff presumably being lost gradually through natural wastage and voluntary redundancy schemes. While some of these assets may benefit a new organisation, again they may not fit into companies that have their own systems already in place, and may not suit the requirements of a new organisation, and so there may be a significant loss here as well.

Dr Denise Syndercombe Court
Senior Lecturer in Forensic Haematology
Barts and The London School of Medicine and Dentistry
Queen Mary, University of London

6 February 2011

DECLARATION OF INTERESTS

I am an academic working in a UK university that undertakes teaching and research in the area of forensic science and medicine. I run an ISO17025 accredited laboratory undertaking analysis of tissue for human identification. I have never been employed by the FSS or any of the other commercial laboratories although I have undertaken specialist consultancy or case work on occasions.

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Written evidence submitted by Graham Owen (FSS 18)

1. I was employed in the Metropolitan Police Forensic Services for 38 years until my retirement in 2010, and have a lot of experience in using the services of the FSS, and forensic issues in general.

2. The reason the Government is citing for the closure of the FSS is that it is losing money. However, the importance of the underlying reasons as to why this situation has come about has not been explored. If there were no monetary losses, this Committee would not have the FSS on its agenda. The fiscal losses are as a result of the combination of government policy and FSS management. The Government has created the situation by commercialising forensic science services in the UK and the FSS management has lacked vision and has set out to milk the forensic budget of police forces. To simply close the FSS is using a sledgehammer to crack a walnut. If the FSS is closed down the Criminal Justice System in the UK will collapse.

3. I can offer an insight from the customer's point of view of how this situation has developed. I have tried to keep this as brief as possible by generalising. More detail could be added if required. This is not laid out in a totally chronological order, but represents a broad overview.

4. Prior to the Government creating a market place for forensic services there were no real monetary issues from either the police side, or the FSS side.

5. FSS management failed to anticipate the volume of DNA work that this new (at the time) technology would create. Consequently, the DNA departments were not expanded, presumably on cost grounds. It was not long before their systems could not cope with the workload, and the dates and timetables imposed by government for court appearances could not be met both for results of DNA work and the statements from the scientists.

6. To get around this, the FSS introduced a premium DNA service to ensure that important dates could be met. This service cost £5000 extra for every premium submission of up to five exhibits. Most of the users of this service were of the opinion that we were paying for the inefficiencies of the FSS, as if the premium service was not requested, the work would not be completed in time for the court dates could to be met.

7. It was not long before the FSS management realised that police forces were a cashcow, and as a result, the managers would push various services that were available regardless of if they would actually make a positive contribution to the case in question. Also, the hourly rate charged by the FSS for their scientists services, both in the laboratory and in the field was expensive. This was between £90 and £130 per hour in 2009. This would be charged for travel time to and from crime scenes, meetings, as well as time spent on cases in the laboratory.

8. The Metropolitan Police Service realised that the forensic spend was out of control and began to introduce control measures to reduce forensic costs. I suspect that Provincial Police Forces did the same. The FSS retaliated by introducing new procedural hoops that their customers had to jump through—at more cost, of course, with the threat that if they were not taken up, the FSS would not participate in the court process or if they did, would bring out in court that their recommended procedures had not been observed. This did not happen overnight. As the police introduced a new control measure, the FSS would find a way to introduce a new procedure or process that restored their fiscal margins. The relationship between the FSS and the police deteriorated from a partnership fighting crime, to the FSS looking to maximise their income and the police seeking the best value for money method of achieving the required result.

9. It became obvious that it would be more economical for the Metropolitan Police Service to form its own forensic science division to perform many of the functions previously undertaken by the FSS and the training for the MPS forensic practitioners and managers was enhanced so as to be able to formulate submission strategies that would provide the evidence needed at the most economical cost. It also enabled the management and examination of all crime scenes including the most serious scenes previously examined by the FSS. The MPS personnel would call on specialist sections of the FSS when necessary, but their involvement in scene work in the London area was much reduced.

10. The current situation is that now much of the forensic work from the MPS and some Provincial Forces is carried out by LGC Forensics. They came onto the scene with a different attitude to the FSS. They worked WITH the investigators not only to get the best outcome, but with the most cost effective methods. Options were offered with their respective pros and cons. In comparison, the FSS was seen to be “milking” the police to extract the most money for every case regardless of the relevance of the results.

11. No one provider can, in my view, cope with the whole of the UK forensic workload, and to make it a commercial, market driven industry is not the way forward. If the FSS is closed, someone will have to take up the work or forensic services in the UK will collapse, and the Criminal Justice System will follow.

12. The FSS is revered around the world for forensic excellence and it has unrivalled expertise. Sadly, many of the specialist divisions have been closed or combined with other departments on economic grounds, diluting knowledge and effectiveness.

13. The criminal justice system is not suitable to be run as a commercial enterprise. The major forensic providers get most of their income from police enquiries, and their money comes from government.

Government are limiting the money given to the UK police forces, so, in turn, they do not have the money to pay for market driven forensic services.

EXAMPLES

14. When the London Laboratory of the FSS was the Metropolitan Police forensic Laboratory, (prior to it becoming part of the FSS) there were many submissions that were rejected for various reasons. This could range from the requested work not achieving the required or expected outcome to incorrectly packaged exhibits or impossible timescales. The FSS never rejected anything as no money can be made from a rejected submission.

15. The FSS encouraged the submission of all of the exhibits in every case so that they could charge storage and handling fees.

16. FSS scientists would never say “the positive results from this technique are so low as to make it not worth doing” when a technique or process was on the table. They would make it very difficult, if not impossible, for an investigator not to agree to the work as it could lead to him or her being accused in court of not pursuing every line of enquiry. Senior forensic managers in the Metropolitan police did take these decisions with a documented rationale and also taking account of what impact any results would have on the case. For instance, the result would either be an already known fact or would not prove or disprove any facet of the prosecution case.

17. The FSS also act as a supplier for forensic equipment for the use of Scenes of Crime Officers and other forensic practitioners. These items used to be available in kits, for the use of, for instance, divisional surgeons, or in bulk for police forensic practitioners. Then the FSS decided not to supply the items in bulk, only in kit form. This meant that a preserved blood bottle that as a bulk item cost 40 pence each could only be obtained if a blood/alcohol kit was purchased. This kit contained items that were of no use to the forensic practitioner as they had supplies of some of the other items in the kit anyway, and there were further items that would not be used by the forensic practitioner, only a divisional surgeon. The kits cost approximately £10. A clear example of the FSS not working to accommodate the customer needs, but boosting FSS income at the expense of the customer. This resulted in the Metropolitan Police—and maybe other police forces—looking elsewhere for their forensic supplies, and the FFS losing income.

18. The identification results from the DNA database were—and maybe still are—being vastly inflated by the inclusion in the identification figures of previous identifications that have already been notified. In the Metropolitan Police Fingerprint Branch, if someone was identified at a crime scene, the identified marks were withdrawn from the database so that in the event of the offender being re-arrested for a different crime, no duplicate identifications would be made. Any identification made as a result of fingerprint identification could be acted on with the knowledge that the offender had not been previously identified and dealt with for that offence. The FSS do not routinely remove identified stains from their database, so a repeat offender will get identified for all previous offences, as well as any new offences every time he or she is searched. This means that the number of DNA identifications claimed by the FSS for the DNA database is grossly over inflated. This has made police forces over-reliant on DNA results to justify various initiatives and has encouraged more prioritisation of DNA submissions than perhaps would have been made if the true statistics were known. This, in turn has exacerbated the logjam in the DNA system.

19. I hope that the above assists in understanding how the FSS losses have come about. Had the FSS not put profit above all other considerations, they would have maintained or increased the work submitted to them and they would not have made losses. I am convinced that with the right management and government policies in place that the situation could be rectified, but this might mean the revision of the forensic market place. I think that all of us who were “in the trade” can trace problems on all sides back to this point. The whole forensic system in the UK could be made far more efficient if given the correct funding and management that worked for justice rather than profit. Government money is used to provide forensic services, whether it is directly or indirectly. The current indirect route reduces the amount available to pay for forensic services as it has to also fund layers of management and fiscal control that are only necessary due the forensic market place.

20. As an aside, there is also a lot of unnecessary expense and workload generated by the Crown Prosecution Service demanding work to be done that in some instances has absolutely no impact on the case, and in many cases has already been considered by the Forensic Management Team and rejected with a documented rationale. This not only increases the costs, but also imposes more work on an already over stretched industry. All unnecessary work has a negative impact on the delivery times of the necessary work.

Graham Owen

7 February 2011

Written evidence submitted by Professor Peter Gill (FSS 19)

DECLARATION OF INTEREST

I am a forensic scientist with 30 years' experience. I joined the Forensic Science Service (FSS) in 1982. I began research into DNA in 1985, and was the first forensic scientist to collaborate closely with Sir Alec Jeffreys. After a period of Home Office supported research, in the same year we jointly published the first demonstration of the forensic application of DNA profiling. In 1987 I was given an award under the civil service inventor's scheme for my discovery of the preferential sperm DNA extraction and the development of associated forensic tests. I was subsequently responsible for developing/introducing most of the fundamental tests used in current modern DNA analysis, including STR multiplexes and the methodologies that are used by the National DNA database. I was employed as Principal Research Scientist at the Forensic Science Service (FSS). This is the highest scientific grade within the FSS. I left in 2008 moving to Strathclyde University. I have now transferred to a new position as Professor of Forensic Genetics, Oslo University, Norway (although I retain a secondary (minor) affiliation with Strathclyde University).

I have published more than 140 papers in the peer reviewed scientific literature; the majority were published under FSS auspices. My papers have been cited in publications by other scientists more than 4,600 times over a 20 year period: <http://www.researcherid.com/rid/C-3056-2009>. These papers were published primarily with ex-colleagues at the FSS and form the backbone of forensic genetics in the UK and worldwide. I currently specialise in forensic genetics, statistics, interpretation of DNA evidence, and development of novel quality assurance methods. I actively work to promote the support the development of open-source software. I provide and develop training initiatives for forensic scientists.

I have been involved with a number of high profile cases, including R v Hoey (Omagh bombing). Currently I am a member of the European Network of Forensic Science Institutes (ENFSI) and chair of the "methods, analysis and interpretation sub-section". I briefly chaired the national UK DNA technical working group before the regulator's position was formalised. I am a member of the European DNA Profiling Group (EDNAP) and the international society of forensic genetics (ISFG) where I regularly chair the DNA commission and run international workshops on statistics and interpretation of evidence. In 2010 I was international research fellow of ESR, New Zealand, and presented a paper to a meeting of MPs. (<http://www.beehive.govt.nz/speech/celebrating-20-years-dna-forensics-new-zealand>).

THE INTERNATIONAL COMMUNITY OF FORENSIC SCIENTISTS—ORGANISATIONAL LINKS

1. Forensic scientists are part of an international group of scientists with very strong collaborative links. Within Europe, the primary organisation that brings scientists together is the European Network of Forensic Science Institutes (ENFSI) <http://www.enfsi.eu/>. For DNA profiling evidence there is an additional (older) group—the European DNA profiling group (EDNAP) <http://www.isfg.org/EDNAP> which exists under the auspices of the major academic body, the International Society of Forensic Genetics (ISFG) <http://www.isfg.org/>. There are strong links with counterpart organisations in the US and Australia/New Zealand jurisdictions. Because forensic science is an unusual discipline that embraces many divergent areas, there are also strong links with universities engaged in fundamental research, lawyers, and other public and commercial bodies.

2. This review is focussed on DNA profiling evidence. DNA profiling is undoubtedly the most advanced field of the forensic sciences, and widely regarded as a model for other disciplines.

3. With the sole exception of England and Wales, representation at international meetings of ENFSI/EDNAP is via public bodies, generally either government body or police laboratories for the former, including university labs for the latter.

4. At ENFSI, England and Wales are the only countries represented by two private companies (currently FSS and LGC). Scotland is represented by Strathclyde University (for historical reasons), and the Scottish Forensic laboratories (SPSA).

5. Forensic science is dominated by public sector organisations throughout the EU and beyond. This has led to a special working relationship between the EU laboratories, with an unrivalled working ethos of trust and collaboration between laboratories. The purpose is to collaborate and to share information in order to progress our field for public (not for commercial) benefit.

6. The UK research councils (EPSRC and BBSRC) do not support forensic science programmes. It has also proven extremely difficult to obtain funding via EU programmes eg FP7, after several unsuccessful attempts by members of the ENFSI/EDNAP/ISFG groups.

7. Since the FSS became a trading fund, there has been gradual erosion of the "*research for public benefit ethos*" within the organisation, in favour of strong support of the commercial ethos by FSS management. This is a natural result of the (inviolate) directive to privatise to the FSS.

HISTORICAL

8. Over the space of 20 years, a relatively small team of dedicated scientists (in the 1980–2000) was able to develop all of the methods used in current casework. This included the first demonstration of the principle that

DNA profiling could be used in casework, the development of extraction methods to isolate sperm; the first mass screen in 1987 (Colin Pitchfork);¹ the first demonstration of STRs in casework; the first use of multiplexes in casework.

9. As a prime example, in the early 1990s the FSS was approached by the Russian Federation in order to analyse the remains of the Romanov family.² This was only possible because the FSS was one of the very few laboratories in the world that was capable of carrying out the necessary work. The Romanov example combined the use of mitochondrial analysis with the earliest examples of short tandem repeats (STRs) and demonstrated the immense power of DNA profiling on ancient remains. Subsequent work disproved the claim of Anna Anderson to be Anastasia.³ This work was of fundamental importance since it led directly to development of the tools: multiplexed STRs that were used in the first national DNA database in the world.

10. These developments had international significance. This is the legacy that international colleagues appreciate. But this state of affairs existed 10 years ago. Since then, the FSS has undergone many changes that make it unrecognisable as the institution that formerly existed.

11. Since 2005, the research output at the FSS has been in progressive decline. The current “research” is mainly “for-profit”; disclosure is strictly regulated by FSS management and is selective. There is a conflict of interest between ENFSI membership and the “marketing opportunity” ethos of a commercial organisation.

12. UK forensic science finds itself at a cross-road. The decisions to be made by government over the next year will be crucial to providing the road map for the next decade and beyond. At stake is public confidence in the criminal justice system itself including its (inseparable) component parts (especially the NDNAD).

13. The complexity of forensic science is underestimated. It is unrealistic to suppose that the necessary infrastructure can be supplied solely by private companies. It is also unrealistic to suppose that the existing accreditation systems are sufficient within the UK environment. Much support is required. The following discussion is intended to provide prime examples why a cohesive public research capability is required in the UK in order to keep pace with a highly dynamic (changing) environment.

THE PRÜM TREATY, THE DEVELOPMENT OF NEW EUROPEAN (ESS) MARKERS AND THE NATIONAL DNA DATABASE (NDNAD)

14. The Prüm treaty was agreed in 2005.⁴ The stated purpose is: “to step up cross-border cooperation, particularly in combating terrorism, cross-border crime and illegal migration” by “facilitation of international DNA-profile enquiries through direct access to national DNA-databases to assist in crime investigation and identification of suspects”.

15. A previous House of Commons Select Committee on forensic science⁵ noted: “The police currently record 10 DNA markers per individual in order to generate a profile for the NDNAD. Professor Sir Alec Jeffreys asserted that this was insufficient, arguing that the number of markers collected should be raised to 15 or 16.”

16. Indeed, these recommendations were quickly adopted by the ENFSI DNA group in recognition that more and better standards were needed to facilitate Prüm. A number of new European loci were investigated and recommended.⁶ Implementation of this EU policy has been largely unfunded and poorly supported. Hence progress has been slow.

17. The existing SGM multiplex used to compile the existing c.4 million samples on the current UK national DNA database (NDNAD) is now “out-of-date”. New markers developed in consultation with ENFSI, now supplied by Applied Biosystems and Promega Corp., are superior both in discriminating potential and in their effectiveness to provide results from highly degraded (compromised) stain material. Ten years is a long time in science. In the interim, not only has the discriminating power improved in line with ENFSI recommendations, but new buffer-systems are available that actually increase the chance of success of getting a result from a case (eg by reducing the effect of inhibition). Whereas many EU states plan to introduce the new ESS markers into casework over the coming year in line with an EU council recommendation,⁷ there appears to be no coherent strategy within the UK to introduce the new tests within this time-frame.

18. EU efforts are currently coordinated under ENFSI auspices, to compile frequency databases and to validate them, for the new marker systems across more than 20 EU states. This study is under way and follows

¹ Gill, P, Lygo, J, Fowler, S And Werrett, D (1987) An Evaluation Of Dna Fingerprinting For Forensic Purposes. *Electrophoresis*, 8, 38–44.

² Gill, P, Ivanov, P, Kimpton, C, Piercy, R, Benson, N, Tully, G, Evett, I, Hagelberg, E And Sullivan, K (1994) Identification of The Remains of The Romanov Family By Dna Analysis. *Nature Genetics*, 6, 130–135.

³ Gill, P, Kimpton, C, Aliston-Greiner, R, Sullivan, K, Stoneking, M, Melton, T, Nott, J, Barritt, S, Roby, R And Holland, M (1995) Establishing the identity of Anna Anderson Manahan. *Nat Genet*, 9, 9–10.

⁴ <http://www.consilium.europa.eu/showPage.aspx?id=1190&lang=en>

⁵ <http://www.publications.parliament.uk/pa/cm200405/cmselect/cmsctech/96/96i.pdf>

⁶ Gill, P, Fereday, L, Morling N And Schneider, P (2006) The evolution of DNA databases—Recommendations for new European STR loci. *Forensic Science International*, 156, 242–244.

⁷ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:210:0012:0072:EN:PDF>

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a previous model to compile and validate EU databases.⁸ The results will be compiled into a centralised (global) resource <http://strbase.org>.

19. A difficulty that all national DNA databases have to contend with is the “lock-in” effect. When four million samples have been processed, it is difficult to change and to engineer retrospective compatibility. This issue first arose in 2000 with the upgrade from SGM to SGM plus systems. Loci can only be added (they cannot be taken away). The best solution is to reanalyse/upgrade samples. Change is expensive, and requires much validation and specialist research support to achieve.

20. When responsibility of the NDNAD was part of FSS function, all of the necessary experts (biologists, IT specialists and others) were all under one roof, along with the original inventors of the database. The effect of devolving the NDNAD to NPIA was to divorce the expertise required to maintain and upgrade the database in a timely way.

21. It is quite clear that frequent upgrades to the NDNAD are required now and in the future, simply because science is not static. This is, however highly complex to manage. If upgrades are not carried out in timely fashion, then the result that follows is that the UK forensic science services and the associated NDNAD cannot keep pace with the new standards adopted elsewhere in the EU.

22. Currently, there is no published timescale in place to upgrade the NDNAD to the new marker system in line with the ENFSI recommendations of 2006.⁹ Being locked in the past, the inevitable consequence is that casework is carried out with less efficiency than would otherwise be the case elsewhere in the EU. Cases will effectively be “lost” (ie they will fail to provide probative results in laboratories not equipped with the latest technology).

IMPORTANCE OF RESEARCH TO CONDUCT RISK ANALYSIS, TO SUPPORT THE REGULATOR FUNCTION

23. The complexity of the UK network of scientific laboratories and the centralised NDNAD requires effort to ensure compatibility, to enable comparisons and to carry out risk analysis. The complexity is such that new methods are required to be implemented in order to undertake this function.

24. All scientific processes are subject to error. A pro-active approach is needed to understand and to evaluate risks inherent in the NDNAD and the suppliers to the NDNAD. *It is not suggested that errors are common, rather I deal here with the rare event—but an error rate as low as of 1 in 1 million may have consequences that are serious. The potential for error is important to consider, but difficult to evaluate.*

25. Existing accreditation systems do not take sufficient account of variation between laboratories. In a recent study of accredited laboratories by NIST in the US, the authors found discrepancies in reported strength of evidence, between laboratories, of a staggering 10 orders of magnitude difference—for the same set of samples.¹⁰

26. This important study demonstrates that a highly pro-active approach is required to understand the differences that exist within existing national processes, and to understand their significance. Existing accreditation systems operate at a more basic level of “compliance”, and are not geared up to carrying out the much deeper investigations that are described above.

27. New methods are required to provide a much deeper understanding of the diversity of processes. These are complex to design and to interpret. This is an example where a dedicated research unit is needed. It is suggested that a publicly funded lab that is modelled on NIST in the US would be suitable for the UK (*if we don't turn over the stones, we won't find the bugs*).

28. Currently there is no scientific assessment of risk—defined in terms of rates of “false inclusion” (the chance that a random person will match a crime stain) and “false exclusion” (the chance that an individual will fail to match a crime stain—ie a failure to detect a perpetrator who is on the NDNAD. Gill et al.¹¹ identified the main risk to be the problem of false exclusion: ie “missing a match”

29. Risk analysis is essential to undertake, again, this is not a trivial matter because novel methodology is required to evaluate the probability of rare events caused by errors (*typing errors are caused a number of different factors eg contamination, transcription errors and inadequate rule-sets that are used to upload profiles onto the NDNAD*), for example, see Gill et al.¹² A sound research base is required to properly understand and to facilitate a complex quality assurance regime.

30. To summarise, it is argued that courts need additional information in terms of concurrent risk analysis in order to place into context the application of micro-probabilities.

⁸ Gill, P, Foreman, L, Buckleton, J, Triggs, C And Allen, H (2003) A comparison of adjustment methods to test the robustness of an STR DNA database comprised of 24 European populations. *Forensic Science International*, 131, 184–196.

⁹ Gill, P, Fereday, L, Morling, N and Schneider, P (2006) The evolution of DNA databases—Recommendations for new European STR loci. *Ibid.*, 156, 242–244.

¹⁰ http://www.cstl.nist.gov/biotech/strbase/training/AAFS2008_6_InterlabVariability.pdf

¹¹ Gill, P, Puch-Solis, R and Curran, J (2009) The low-template-DNA (stochastic) threshold—its determination relative to risk analysis for national DNA databases. *Forensic Sci Int Genet*, 3, 104–111.

¹² Gill, P And Kirkham, A (2004) Development of a simulation model to assess the impact of contamination in casework using STRs. *Journal of Forensic Sciences*, 49, 485–491.

31. The NDNAD still uses a simplistic approach to data-analysis that was developed more than 15 years ago by the FSS.¹³ But this was in relation to the simple environment which existed in the past, where very few processes were used. A complex environment requires sophisticated solutions just to stand still.

32. The commercial ethos in the UK raises difficult challenges. As already noted, commercialisation (by definition) drives diversification. Courts require *uniformity* of technique, but diversification causes *divergence* and increases *complexity*. In a commercial environment, it follows that “enhanced” regulation must keep pace to compare the diversity of methods that currently exist within the UK; otherwise we cannot be assured that method (a) is comparable to method (b) and we cannot be assured that the performances of laboratories are comparable. Ultimately, the courts cannot be assured that they are getting the *best evidence*. Ethical issues are also raised.

ROLE OF PUBLIC SECTOR IN THE COMMERCIAL ENVIRONMENT

33. Private companies will usually wish to work on routine casework that can be easily costed. Laboratories are typically designed as “conveyor belts” where there is little scope to vary the test or to apply tests that are outside the usual remit.

34. Because it is time consuming and expensive to validate and to implement new tests, there is little incentive to introduce tests that are rarely used. The “conveyor belt” method means that there is inevitably less attention to rescuing cases that might otherwise be reported if more effort or if different approaches were applied.

35. Mitochondrial DNA tests and Y-chromosomal tests are routinely carried out in the public EU laboratories, but are comparatively rare within the UK. Unusual tests may be non-profit making and demand special techniques that are invaluable to specific cases, but because they are only required rarely, companies cannot necessarily justify the costs of implementing rarely used methods.

36. Examples of specialised tests include: use of mitochondrial DNA, Y-chromosome tests, red hair marker, laser-micro-dissection, application of RNA body fluid tests (MtDNA is currently only offered by the FSS; it is not clear if many of the newer specialist tests are available in the UK).

37. Of course the role of the regulator is limited by resources. The regulator can only assess techniques that are proffered by the various companies. The regulator cannot offer advice whether method (a) is better than method (b). The company’s techniques are often “*commercial in confidence*” and there are problems/consequences that arise from this:

- (a) The defence expert often has great difficulty in assessing the test. Ideally, any test used in court should be both publicly available and have sufficient detail publically available so that all interested scientists have some opportunity to examine the methods that are used. This is how the scientific process works—by disclosure, mutual cooperation, interchange and peer review.
- (b) Commercialisation does not promote exchange of data, collaboration and convergence. Neither does it promote openness. In a recent court case (R v. T)¹⁴ the judge criticised the FSS for using an internally developed “*commercial in confidence*” database on footwear marks. Paragraph 84 of the judgement states:

*“There is also the further difficulty, even if it [the database] could be used for this purpose, that the data are the property of the FSS and are not routinely available to all examiners. It is only available in a particular case to an examiner appointed to consider the report of an FSS examiner.”*¹⁵

- (c) This database was not available for peer review and not available to other scientists to assess. It is not possible for peer review to operate on a restricted basis. A retrial has now been ordered.

38. This case also demonstrates that a serious mismatch exists between the government’s aspiration to privatise forensic science, versus the court requirement for openness, disclosure, and scientific peer review. It is easily demonstrated, therefore, that the framework to utilise forensic science in the UK, where the market is entirely privatised, is already fatally flawed.

39. What the courts require is “*uniformity*” between suppliers, so that results can be easily compared between laboratories, and collaborative working is encouraged to ensure that the best techniques are in universal use. To provide an analogy, there would be public outcry if one NHS hospital was using an inefficient procedure that resulted in elevated death rates, compared to another NHS hospital that used a method that halved the death rate in patients. Imagine the situation where the second hospital refuses to allow the first hospital to use its technique because it was “*commercial in confidence*”. Yet the use of sub-optimal DNA methods in forensic science laboratories can have similar (dire) consequences.

40. We do not currently know how efficient the existing laboratories are in the UK, because there is no framework that enables this discovery. The regulator function does not include the necessary comparative studies.

¹³ Gill, P, Sparkes, R and Kimpton, C (1997) Development of guidelines to designate alleles using an STR multiplex system. *Forensic Science International*, 89, 185–197.

¹⁴ <http://www.criminallawandjustice.co.uk/index.php?CLJ-Reporter/r-v-t-2010-all-cr-d-240-oct-2010-ewca-crim-2439.html>

¹⁵ R v. T Neutral Citation Number: [2010] EWCA Crim 2439

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41. The ISFG and the scientific societies strongly support development of open-source software and methods. This is realistically the only way forward to ensure complete transparency, openness and unfettered peer-review.

SUMMARY

42. Some kind of public/private partnership is required, where private enterprise is underpinned and supported by the public (non-profit making) entity with a strong research function. This entity will also interact with the scientific societies without the embarrassing encumbrance of commercial profit making ethos.

43. For a publicly funded organisation to be accepted by the international community, it will be important for it to abandon commercial aspirations that compromise its integrity.

44. Research must be collaborative and involve all of the suppliers, for the common good, free of patent restrictions. Courts will not accept secret tests that have not been subject to rigorous peer review and challenge. The public will not accept sub-standard tests being used in any laboratory. An exploratory framework is needed to discover whether laboratories are providing sub-standard results. The NDNAD will need close attention to ensure that it is fit for purpose within the diversified UK environment. Numeric risk analysis is essential to undertake to understand the errors in the system and whether the consequences are acceptable. Currently there is insufficient information to know the *lay of the land* and insufficient discovery.

45. The research group must be closely associated with specialist caseworkers. Research is of little use in our area unless the efforts are quickly translated into court-going techniques. This interaction is immensely important. This is why researchers and caseworkers must work closely with each other.

46. *Research* must not be confused with “*casework validation*” or “*implementation*”. These two functions are part of the laboratory requirement to demonstrate that a test (new to the laboratory) has been properly implemented, tested and used.

47. The research laboratory exists in order to collaborate within the existing international framework, free from commercial constraints, to collaborate in open-source initiatives and to provide new tests.

48. Databases used for estimating strength of evidence must be open, and centralised and subject to peer review to allay concerns of *R v. T*—the “research group” is a natural custodian of these centralised databases to be used for the benefit of all suppliers.

49. Continuing (centralised) education of forensic scientists is also a requirement to consider.

50. The research group will work closely with the regulator in order to develop a framework that evaluates the numerical risk of errors. This is not trivial and requires a deep understanding of all the processes within the UK system (including the NDNAD).

51. These ideas do not sit easily with the existing disparate commercialised UK framework. Whereas it is clear that the international community of forensic scientists will quickly embrace a newly formed UK public ethos forensic laboratory that overarches the standards and provides unfettered advice and contributes freely to the international research initiative. The community will quickly treat with suspicion any organisation that is motivated primarily by commercial reasons.

52. UK forensic science is therefore at a cross-road; at stake is not only the international scientific reputation of forensic science, but also a question of whether public confidence can be maintained.

Professor Peter Gill

Professor of Forensic Genetics, University of Oslo
Senior Lecturer, University of Strathclyde

7 February 2011

Supplementary written evidence submitted by Professor Peter Gill (FSS 19a)

I think the issue relating to impartiality and disclosure of evidence in a commercial environment is not as straight-forward as CPS represent. There are serious concerns relating to disclosure of “commercially sensitive material”.

<http://www.thetimes.co.uk/tto/news/uk/crime/article2955426.ece>

Of course there is no debate that material must be disclosed if required by a court, and that the material will usually be forthcoming if required by the defence, if it is relevant to the case.

But simple disclosure is not peer review by any stretch of the imagination. For peer review to be effective, we require publication and availability for testing within the relevant scientific community.

The problem with *R v Boughton* was that a) computer code may be made available for a defence expert by court order b) In the limited time/budget available the defence expert has no hope of understanding the code, or other method c) If the court order is restrictive then the defence expert is unable to circulate for peer review.

Please bear in mind that budgets available to prosecution and defence scientists are often disproportionate—this means that sufficient resources are simply not available to the latter to carry out effective discovery (another reason to restrict the “commercially sensitive” paradigm)—and this is never as effective as peer review.

Court going experts don't represent the “scientific consensus”, indeed there is an inherent danger with the adversarial court system that barristers go “fishing” for experts that represent extreme points of view that clearly do not represent the scientific consensus. These experts may well proffer their own personal viewpoints that diverge from scientific consensus.

All of my above points argue strongly against use of “commercial in confidence” methods per se, especially if it impacts on the court-reported statistic (or strength of evidence assessment).

The regulator function does not replace peer review, and does not extend to comparative studies to ensure commercial method (a) is comparable to commercial method (b) for example.

Peter Gill

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Senior Lecturer, University of Strathclyde

30 March 2011

Written evidence submitted by Andrew Meaby (FSS 20)

My name is Andrew Meaby and I am a Forensic Scientist based at the London laboratory of the Forensic Science Service who has dealt with violent crime cases for the past 12 years.

1. In my opinion the closure of the FSS will result in a number changes:

- Initially the competitors will increase their prices and will also only bid for work that can give them an easy profit. This is likely to be the simpler cases.
- This will cause the police forces to insource more - to save money and to enable them to meet the needs of the case.
- As they do not currently have the provision, this will mean that they will need to set up a forensic laboratory (in the long term).
- As I'm sure is obvious, the costs of “creating” a smooth running laboratory will always far exceed the costs of improving one already in existence.

2. As has recently been amply demonstrated by the issues of increased insourcing, more errors are likely as the “new” labs try to find their feet. The FSS has had years of history in adapting to court pressures and new technologies, something the police will have to start again from scratch.

3. Whilst the FSS is losing a large amount of money (and has been widely publicised as doing so) the transformation was incomplete. The financial result of the three labs closing down will now not be known but improvements and fundamental changes were being made. This loss was as a direct result of government attempts to change the forensic market in the first place.

4. The forensic market is currently not profitable. I would imagine that this situation will change for the competitors should the FSS close, as they will be in a position to increase their charges significantly. I don't believe that the private sector currently has the capacity to do all of the work and I am strongly of the opinion that it would not make business sense for them to increase their capacity significantly as the market is so unstable. Police forces do not have the correct procedures, impartiality and expertise to undertake this work and if they were to try to attain this then they would be recreating the FSS.

5. In my opinion the only alternative is to allow the transformation to complete and consider a stock change of the senior management to assist in the companies transition. The companies profits/loss can then be viewed post transformation to see if it is still a viable proposition.

6. No, the staff should get their redundancy package as set out in their terms and conditions. Reductions of these terms are currently being sought but as these hadn't been considered till after the closure announcement, in my opinion any reduction to these terms would be disgraceful.

Andrew Meaby

7 February 2011

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Written evidence submitted by Dr Fiona Perry (FSS 21)**POINT 1**

1(i) Closure of the Forensic Science Service (FSS) will leave England and Wales as being the only countries in the world that have a totally privatised forensic science market. No other country has even come close to considering this as an option and forensic communities throughout the world widely regard privatisation as “madness” and not in the public’s best interest.

1(ii) Neither the Government, ACPO nor any other organisation have any control (either now or in the future) over how much work the other forensic providers will take over from the FSS, which forensic areas they will cover or how long they will provide forensic services. If these companies decide to exit the forensic market in future years, the Government, ACPO etc. will be powerless to stop them. By closing the FSS, the Government will have relinquished any control over forensic science provision in England and Wales.

1(iii) The private forensic laboratories have no ties or loyalty to forensic science. If they are making insufficient profit, they will simply exit the market. This is a very real concern considering that the police are forecasting decreasing submissions and with the pressure of the rapid expansion required to take over the FSS work. There is a considerable risk that the country will find itself with a drastic shortage of forensic providers and a Criminal Justice System in crisis. The Government would have no choice but to have to step in and build a new forensic laboratory which would cost hundreds of millions of pounds (on top of the millions already being spent to investigate and close down the FSS).

1(iv) Forensic science should be kept as a public service and should not be run for (or judged by) profit alone. Forensic provision should be about who does the job best and most efficiently, not about who can do it the cheapest or quickest.

1(v) With the closure of the FSS, there will be a considerable loss of experienced, knowledgeable and well trained forensic scientists. There will not be enough jobs at the other providers to employ all FSS staff; some will be unable (or unwilling) to relocate; others will become disillusioned with a forensic career and pursue other careers and a significant number are likely to move abroad where there is a more healthy (ie non-privatised) forensic market with better opportunities. This staff departure has already been demonstrated (and raised as a concern) following closure of the FSS Birmingham, Chepstow and Chorley Laboratories (along with earlier FSS redundancies).

1(vi) Closing the FSS will kill the forensic market. LGC Alliance will become the new monopoly—they have already taken over Forensic Alliance and The Horseracing Forensic Laboratory, thus significantly reducing the number of competitors in the market.

1(vii) The Government’s intention is to “drive down prices and improve turnaround times”. Closing down a company that as a 60% share of a market (ie making demand vastly exceed supply) will do exactly the opposite. It will be a seller’s market where the remaining forensic providers will be free to charge the police whatever price they like. In addition, the remaining forensic providers are likely to have to increase their charges to fund their expansions.

1(viii) The FSS has been responsible for every DNA technique advancement to date, along with several other important areas of research. None of the other forensic laboratories (or the police) have shown any interest in investing in such advancements (presumably due to its high costs). It is essential that research and development is considered an essential part of forensics.

1(ix) The FSS has an international reputation and is a world leader in forensic science. There is very little scientific achievement in the UK but the Country should definitely be proud of the FSS. It is one of the few scientific achievements that other countries envy about the UK. Closing the FSS will destroy our forensic reputation. It will take decades for another company to build up a similar reputation and there is no guarantee that they will ever be able to gain a reputation as good as the FSS.

1(x) There are likely to be serious implications for specialist areas such as Cold Case Reviews. What experience do the other forensic providers have in doing such reviews and are they able to prove that they have sufficient resources and sufficiently experienced staff?

1(xi) The FSS has vast amounts of information and databases that none of the other forensic providers possess—it would take them years to build up a similar depth of data. The FSS also performs advisory functions to Government departments on several areas.

POINT 2

2(i) The Forensic Science Service has always led the field in terms of quality, training and research. It is a model that has been copied by several of the other companies.

2(ii) The FSS has been in the UK forensic field, in one form or the other, for decades. None of the other companies have the same depth of the experience.

2(iii) Forensic Science is not just about producing analytical results. Just as important is interpretation of the evidence in the context of the case, comparison to the most appropriate data and awareness of contamination

issues and other pitfalls. Experience is invaluable and all FSS staff benefit from having many other more experienced colleagues for continued advice and mentoring. The FSS has tried and tested methods and must have encountered every type of case, situation and problem in its decades of existence. New companies simply do not have the breadth of experience to offer this level of assurance. Closure of the FSS would mean that the Country is moving into a system where a number of the forensic providers will be unfamiliar, untested and their competency and reliability as yet unknown.

2(iv) The FSS is a well known and familiar name in the legal field. They can be assured of its quality and well-trained staff. All analysts and reporting officers undergo rigorous training programmes and no reporting officers give evidence in court until they have passed a course on giving evidence as an expert witness. Do all other forensic providers train their staff to this standard?

2(v) The forensic market is essentially unregulated, the forensic regulator having only been in existence for a few years. The forensic regulator has concentrated on regulating the analytic side of forensics (to ISO 17025). Not all forensic providers are accredited to this standard. The reporting side of forensics is essentially unregulated since the abolishment of CRFP (Council for the Regulation of Forensic Practitioners). At the time of abolishment, virtually all court going scientists with the FSS were CRFP registered. There is therefore no reliable system by which the police and legal profession can check the quality of forensic providers, particularly any new companies entering the market. Dilution in forensic quality has obvious consequences, not least an increase in defence challenges and legal aid requests.

2(vi) The reporting styles vary between different forensic providers. Some provide a “one page” analytical or diagnostic report with little or minimal forensic interpretation. This leaves the police and legal field free to interpret the results themselves which is extremely dangerous. The old adage “You get what you pay for” can be aptly applied.

2(vii) The Forensic Science Service is the only company which makes security clearance a condition of employment which is important in security sensitive cases such as organised crime and terrorism. Furthermore, what provisions to the other providers have to ensure secure storage of controlled drugs and sensitive data?

2(viii) If other forensic providers are unable, or unwilling, to take over all of the FSS’s work, then there will be a deficit in forensic provision, causing backlogs in cases. The consequences of this for the Criminal Justice System are obvious—cases failing to get to court, reduction in the number of crimes solved, increase in compensation claims etc.

POINT 3

3(i) The FSS has been unfairly judged on profit alone. Until the Government decided to create a forensic market in 2005, the FSS was a successful company with a reasonable turnover. Its major shareholder (The Government) then actively reduced the company’s income by encouraging police forces to submit their forensic work to other providers. This may have been justified in the interests of creating a forensic market but it is not fair for the Government to then blame the Company for its losses (to which the income reduction and inevitable redundancies contributed). This situation would not have happened in any other market and the FSS has become a victim of a very dangerous and ill thought out Government experiment. The FSS and its staff have tirelessly provided forensic services, despite these difficulties, only to be thrown aside with no regard or respect.

3(ii) The media coverage has concentrated on the fact that the FSS is losing £2 million a month. However, the FSS has undergone a radical restructuring over the last year and will have closed 3 laboratories between Dec 2010 and March 2011. Once this has happened and as long as our income remains steady, the company should no longer be losing money.

POINT 4

4(i) The closure of the FSS is not simply about a transfer of work to other providers. No other forensic provider is an equivalent replacement as none provide the wide scope of forensic areas provided by the FSS. They “cherry pick” the simple and high profit areas and the country risks having a simplified and 2nd rate forensic field in future. Furthermore, there is a reasonable choice of laboratories for DNA analysis but very limited choice in some other areas. The police will have virtually no choice of where to send some of their work. For example, even with a simple analysis such as Road Traffic Act alcohol determinations, there is only one other laboratory (LGC Alliance) apart from the FSS that is able to take on the work. I understand that even LGC Alliance do not have the capacity to take on this work in the foreseeable future.

4(ii) Without the FSS, it is impossible to envisage how the other forensic providers will be able to cope with the required increase from their current 40% of the market to 100%. Such rapid expansion, and the costs required, is financially risky for any business but even more so in a market where prices have been driven so low that they fail to cover the analytical cost of some types of work.

4(iii) All forensic providers have struggled in the last few years against the police driving down prices and reduced volume of submissions. Furthermore, it is difficult to attract private investors into this market, as demonstrated by the French company Eurofins who exited the market last year after 6 months stating that there was no money in the UK forensic market.

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4(iv) The other forensic providers have relied heavily on recruiting ex-FSS staff who have left or been made redundant. They will have to carry out the training of all future staff from scratch which will be expensive and time consuming.

4(v) In the Science and Technology Committee's report to the Government on Forensic Science in 2005 regarding the prospect of the FSS forming a Public Private Partnership (<http://www.homeoffice.gov.uk/publications/police/operational-policing/forensic-science-on-trial?>), when discussing the possibility that the FSS might fail if it became a PPP, ACPO commented that "a destabilised and rapidly failing FSS, currently widely regarded as the leading forensic provider in the World and with up to 90% of market share at present, is potentially a disaster, which we would prefer not to contemplate." Whilst the market share has changed somewhat since 2005, I find it hard to believe that ACPO's opinion has (honestly!) changed so much that they are happy to support the break-up of the FSS.

POINT 5

5(i) The FSS should be given time to finish their transformation programme and turn its financial situation around following the closure of the Birmingham, Chepstow and Chorley Laboratories by March 2011. This should make it a profitable company but, if not, then the prospect of a PPP should be investigated.

5(ii) It is staggering that this decision has been made without considering the financial savings that will be made from closure of the Birmingham, Chepstow and Chorley Laboratories by March 2011 (c.f. James Brokenshire's answer to Diana Johnson's parliamentary written question on 1 February 2011). Surely this is a fundamental rule of business and the responsibility of a Company's shareholders to consider all the information affecting its financial position.

5(iii) The independent forensic providers should no longer be allowed to "cherry pick" from the market, taking only those areas which are most profitable. This would allow the FSS to compete on a level playing field and to be judged fairly.

5(iv) The McFarland Review in 2002 stated that the market would implode and fail if police forces started to "in-source" their forensic sources. This is exactly what has happened and is in danger of forcing the failure of other forensic providers if it continues. Police in-sourcing should be prevented or controlled in future.

5(v) The Government should be prepared to support the FSS until the end of the transformation programme. The amount of money required is tiny compared to the billions used to bail out the banks and subsidise transport. Otherwise, this short-sighted decision to close the FSS will cost the Country a lot more over the next few years. I'm sure the majority of the public would agree that this would be a good use of Tax Payer's money.

5(vi) The public are already outraged at the decision to close the FSS. If the Government continues, then there will be a huge backlash once the full consequences of this decision are realised in a year or so. Furthermore, Victim Support Groups will be carefully monitoring the situation once the FSS closes. Any case that does not make it into the court system, or whose forensic work is shown to be lacking, will make it into the human domain. The Government will, quite rightly, be directly blamed for this. ACPO and CPS will also have to share the blame if they support the decision to close the FSS.

POINT 6

6(i) Any arrangements made to date have not been made public.

Dr Fiona Perry

Forensic Toxicologist

The Forensic Science Service, London Laboratory (with over 16 years experience).

7 February 2011

Written evidence submitted by the Natural History Museum (FSS 22)**BACKGROUND AND INTERESTS**

1. The Natural History Museum (NHM) has a mission to maintain and develop its natural history collections to be used to promote the discovery, understanding, responsible use and enjoyment of the natural world.

2. The Natural History Museum has developed a forensic science consultancy service, built on a foundation of forensic entomology expertise. Detailed information is available on our Forensics website (www.nhm.ac.uk/forensics). In brief, the primary objective of our forensic entomology input to criminal investigations is to estimate the minimum post-mortem interval (PMI) in cases of suspicious or untimely death, generally homicides and suicides. A wide range of other cases can be addressed, but PMI questions are the lead motivator for our activities. The PMI can be estimated by an analysis of the insect evidence, using knowledge of both the rates of development of insects on cadaverous material and the succession of insects across different phases of decomposition. We have an active research programme that generates peer-reviewed publications on which we base our analysis when preparing casework reports. In addition, we are active in raising awareness of the potential for using forensic entomology and other ecological sciences, through lectures to police forces,

universities and professional bodies, for example, for pathologists and forensic scientists. We also run tailored training courses on forensic entomology.

3. Our work on forensic entomology is funded in two main ways:

- Through the Government's Grant in Aid to the Museum (Department of Culture, Media and Sports) which mainly funds salaries of long-term staff.
- Through contracts won by successful submission of proposals to competitive calls (Natural Environment Research Council, Department for Business, Innovation and Skills), which fund the salaries of short-term staff, infrastructure development, research and marketing.

4. Our forensic entomology consultancy generates income for the Museum through casework, either working directly with individual police forces or through the supply of services to forensic providers such as Cellmark Forensics, LGC Forensics, Manlove Forensics and, the focus of this submission, the Forensic Science Service (FSS). The NHM has a current framework agreement with the FSS, in place since March 2009, to provide forensic entomology services, and this agreement is due for renewal in March 2011.

5. We are seeking ways of expanding our service to an international market. We are also seeking to develop further consultancy work in the fields of forensic anthropology, and in forensic applications of other areas of zoology, botany and mineralogy.

SUBMISSION

We have answered the questions this Inquiry asks that are relevant to the Museum and its activities in this regard.

Question 1: What will be impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?

6. The FSS analyses forensic evidence from more than 120,000 cases each year and is the market leader in the analysis of forensic evidence in England and Wales, responsible for about 60% of that market. Our main concern is that it is doubtful that development of alternative services, currently responsible for some 40% of the market, could be accelerated to fill the vacuum left by the rapid closure of FSS, especially with the delivery of a service to the same high quality and rapid turnover as that presently offered.

7. The Museum contributes forensic entomology input to the *Natural Justice* specialist ecology service of the FSS. *Natural Justice* provides very effective marketing of a relatively small component in the forensic toolkit and it is likely that there would be damage to awareness of forensic entomology, and similar expertise, through closure of FSS. Specialist services such as forensic entomology lead to efficiencies through the judicial system: better quality and more rapid analysis of entomological evidence has knock-on benefits through better targeted and more timely crime investigation, for example, suspect confirmation, prosecution or elimination. This decreases the number of cases that are prolonged unnecessarily, hence becoming costly, and/or are reopened due to an unsatisfactory initial conclusion. With the subsequent threat to these specialist services with the closure of FSS, the efficiency of criminal investigations is put at risk.

8. The FSS has been responsible for development of some fundamental tools in forensic work, for example, pioneering the development and implementation of DNA technologies. It is likely that break up of FSS research teams of a critical mass would lead to a reduction in the productivity of the dispersed individuals in those teams in developing new tools for forensic science.

Question 2: What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

9. It has been clear to us through the negotiations that led to our inclusion in the FSS's *Natural Justice* Service that the FSS has an extremely high quality of service and accreditation, for example, adherence to ISO standards. Some of the alternative forensic providers have similar high standards, but smaller providers might not be able to match those standards, especially if they try to take on the opened market in a poorly prepared state, and it is likely that overall standards would fall. Should standards remain high, then it is likely that the numbers of cases that could be handled would fall.

10. If police forces carry out their own forensic work it will no longer be perceived as impartial. This is likely to result in an increase in demand for defence work, thus increasing costs to the CPS.

Question 4: What is the state of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the Forensic Science Service and the volume and nature of the forensic work carried out by police forces?

11. With regard to forensic entomology provision, we currently carry out this specialist work for the FSS. Therefore, for forensic entomology and similar contracted-out services, other providers will be able to continue to carry out the work currently handled by FSS. However, these represent a tiny part of the 120,000 cases handled by FSS each year and we are not able to comment on the bulk of the forensic work handled by FSS.

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12. FSS offers probably the most comprehensive range of forensic services of any provider and so it is likely that customers will experience difficulties in finding an alternative provider that can handle all of the skills required for each case.

Joe Baker
Special Adviser
Natural History Museum
7 February 2011

Written evidence submitted by FSS Firearms Units Staff (FSS 23)**1. INTRODUCTION AND DECLARATION OF INTEREST**

This submission has been prepared by Mark Mastaglio, the FSS Principal Scientist for firearms related casework in full consultation with all FSS staff who deliver firearms related casework; a full list of their names is appended to this submission. It represents some of our personal thoughts on the decision to close the FSS, specifically the impact on the investigation of firearms related crime. I have worked in the London Firearms Unit for twenty-two years. I am Chair of the European Network of Forensic Science Institutes (ENFSI) Expert Working Group on Firearms/Gunshot Discharge Residues. ENFSI has been granted monopoly status by the EC being recognised as *the* source of advice on forensic science issues within the EU. I was the UK Lead Assessor for forensic firearms examination for the Council of Registered Forensic Practitioners until the demise of that organisation. I am a member of the following bodies:

- ACPO Firearms and Explosives Licensing Working Group and a member of its Technical Group.
- The tripartite ACPO/Home Office/British Shooting Sports Council Forum.
- A Home Office appointee on the Historic Weapons Panel.
- The Home Office Firearms Forensic Science Standards Group.
- A Senior Associate of the National Ballistics Intelligence Service.
- The Royal Armouries Firearms Collection Service Level Agreement Committee.

I am a published author on the subject of firearms related forensic science.¹⁶ My colleagues and I have worked on many thousands of firearms related cases both in the UK and internationally and my role as FSS Firearms Principal Scientist gives me the lead in all matters of quality and development of FSS Firearms delivery. My role as Chair of the ENFSI Firearms Expert Working Group gives me an international platform in leading on matters of competence and harmonisation of procedures and in liaising with multinational agencies and professional bodies such as the European Firearms Experts, the EU Police Cooperation Working Party, the Association of Firearms and Toolmarks Examiners and the FBI led Scientific Working Group on Firearms.

2. BACKGROUND TO THE FSS FIREARMS CAPABILITY

There are two Firearms Laboratories, one in London the other in Manchester, staffed by the most experienced firearms forensic scientists in the UK. The FSS has over forty-five years experience in providing a firearms service, a track record unrivalled by any private provider. The London Unit covers the south and the Manchester Unit the north of the country. However the Units do not work in isolation, they are supported by the full battery of services offered by the FSS such as DNA, Fibres, Gunshot Discharge Residue, Toolmarks etc. We have nineteen firearms forensic scientists who cumulatively have over three hundred years experience. This national asset of talent and experience represents the largest collection in a single organisation of case reporting firearms forensic scientists in the UK. We have amassed a unique experience profile in dealing with firearms cases, from the illegal possession of firearms and ammunition through highly sensitive homicide and terrorist investigations. The Firearms Units provide 24/7, 365 day on-call cover for England and Wales; this can involve scenes of crime attendance involving complex reconstruction analysis and attending autopsy examinations providing help and information to pathologists and investigating officers on wound ballistics and intelligence on the potential causative weapons. The FSS has also amassed a plethora of databases and collections pertaining to gun related crime including the largest Firearms Reference collection of crime related guns in the UK, currently standing at over eleven thousand weapons. This reference collection is an invaluable resource and is used in everyday casework; no other Forensic Service Provider (FSP) or police force has anything like it. In 2003, with Home Office support, the FSS created the National Forensic Firearms Intelligence Database and was the first to introduce automated technology in connecting guns and crime scenes to one another; a function that in 2008 passed to the police through the creation of the National Ballistics Intelligence Service (NABIS). All FSS firearms staff are cleared through the Home Office Departmental Security Unit to SC level enabling them unrestricted access up to SECRET and supervised access to TOP SECRET assets. This level of security clearance enables our staff to work on the most sensitive of cases in collaboration with various organisations

¹⁶ From Crime Scene to Court: The Essentials of Forensic Science, 3rd ed. published by the Royal Society of Chemistry, August 2010.

including the Serious Organised Crime Agency (SOCA) and the Counter Terrorism Command (SO15). It is unlikely that all of our private competitors have been cleared to such a level. It is our considered opinion that any fragmentation of the unique talent pool and database/collection assets will have a detrimental impact on the delivery of cost effective firearms forensic science to the Criminal Justice System (CJS).

3. PROVISION OF FIREARMS FORENSIC SCIENCE TO THE CJS

There are currently three privately owned FSPs that offer a forensic firearms service to the CJS. They are LGC Ltd, Key Forensics Ltd and Manlove Forensics Ltd. The former two are based in Leeds and Warrington, respectively, and the latter in Abingdon. LGC and Key have three reporting scientists each and Manlove, who are not accredited through the United Kingdom Accreditation Service (UKAS) for firearms work, have one full time employee. LGC have had to recruit from abroad to obtain most of their staff and Key recently headhunted staff from the Manchester FSS Unit. The principal reason why the FSS staff left was because of the uncertainty that then existed in the future of the FSS. There is no privately owned credible forensic firearms service in the south of the country. The FSS capacity for firearms delivery is by far the largest in the UK and its dilution or disintegration can only have a detrimental effect on the efficient delivery of casework to the CJS. Following the creation of NABIS, three police-owned forensic firearms facilities were set up, one in Birmingham owned by West Midlands Police, one in Manchester (in the same building as the FSS facility) owned by Greater Manchester Police and one in London owned by the Metropolitan Police. NABIS was created following an ACPO/Home Office funded initiative with the remit of providing quick-time intelligence on gun crime to the police. The service was to be paid for by subscription from all ACPO forces, the size of the subscription being commensurate with the amount of gun crime in the subscribing force. Their remit specifically excluded the provision of evidence to the CJS; this was to be provided by FSPs. For the Birmingham and Manchester NABIS facilities this remains the case, bar the provision of evidential statements detailing gun links to crime scenes, however the Metropolitan Police opted out of paying the NABIS subscription and decided to provide a fully evidential service. This seems to have been a unilateral decision and we are unaware of any Governmental opinion or Parliamentary decision to support this. Despite the Metropolitan Police decision to provide evidential services they have been unable to recruit staff that can give competent expert interpretation at scenes and autopsies. It also remains the case that the Metropolitan Police have insufficient capacity to deliver Laboratory based forensic firearms work as evidenced by their need to sub-contract work out to the FSS and other FSPs. The current staffing levels of the two NABIS facilities in Birmingham and Manchester would be insufficient for them to deliver both intelligence and evidential products efficiently; the abstraction on evidential work would compromise the turnaround times for intelligence delivery. We do not believe with current capacity NABIS could deliver both evidential and intelligence products within acceptable time frames.

4. COMPLEX CASES AND COUNTER TERRORIST WORK

Some of most complex and sensitive work that require firearms forensic science input are the investigation of police fatal shootings and counter terrorist cases. In these areas the FSS staff are the most experienced in the country and have forged trusted relationships with key stakeholders in these types of investigations, such as with the Independent Police Complaints Commission (IPCC) and the Counter Terrorist Command (SO15). Tragic cases such as the Hungerford shootings in 1987 and more recently the Raoul Moat case were investigated with the help of FSS firearms scientists. The fatal shooting of Jean Charles de Menezes by police officers in 2005 provides an exemplar of why we need top class firearms examiners competent in scene reconstruction and wound ballistic interpretation that are totally independent of the police. The investigation was led by the IPCC who asked for our input because of our independence and world-class reputation for excellence and impartiality. Surely society demands justice to be served by the highest level of scientific integrity and perceived unbiased opinion. We have participated in numerous counter terrorist cases where our professionalism and discretion have been valued- no other provider can say this. Again our reputation and professionalism has been valued in countless complex international investigations such as those in Afghanistan, Jamaica, Kosovo, Somalia, Somaliland, Kenya, Brunei, British Virgin Islands, Sri Lanka, Pakistan and Iraq. These inquiries include high profile investigations of the murder of UK citizens, high profile individuals and allegations of extra-judicial killings. In Kosovo for example our expertise was recognised by the UN who asked us to participate in the excavation of mass graves during the investigation of war crimes. No other forensic firearms unit in the country is as internationally well regarded. FSS scientists have also played a crucial part in combating the menace posed by so-called conversion factories, these are illicit workshops that convert blank firing guns into lethal firearms; the expertise of our firearms staff and that of colleagues who can match tools to toolmarks have been instrumental in the successful prosecution of underworld armourers. Again our expertise and national coverage are unique factors here. As stated in the introduction I also have a place on several national bodies and committees, with no FSS who will provide impartial strategic advice on matters of firearms forensic science to Government/Non-Government bodies and committees?

5. SCIENTIFIC QUALITY AND INDIVIDUAL COMPETENCE

The FSS has led the way in embedding scientific quality and peer review into the provision of forensic science. The FSS firearms units were the first in the country to be accredited by UKAS. All our scientists regularly take part in individual competency testing and we have developed what I believe to be the most

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robust testing regime in the UK. The creation of the Forensic Science Regulator in the Home Office was intended to provide minimum standards. However we believe there is general concern that so far the Regulator's impact has been negligible; "light touch" and "by consent" seem to be the bye words. We would welcome the Committee's view whether this approach is fit for purpose? Is it fair and balanced considering the enormous cost the FSS has invested in this area? We believe it is imperative for all providers of forensic science, and not just within the firearms field to be accredited and for practitioners to be subject to on-going competency testing. Early in 2009 the American National Academy of Sciences (NAS) published a critical report with respect to forensic science in the USA called "Strengthening Forensic Science in the United States: A Path Forward".¹⁷ The report focuses on scientific shortcomings and policy changes that could improve the provision of forensic science. They thought that forensic science evidence is often the product of shoddy scientific practices that should be upgraded and standardized. One of the NAS criticisms seems to be that a fragmented approach did not help the situation. It is unfortunate that the UK appears to be following a more *laissez-faire* approach, with the intended break up of the FSS, than that recommended by the NAS. These issues of competence and scientific rigour within the CJS were pertinent to the deliberations of the S&T Committee in 2005.¹⁸

6. CONCLUSIONS

We hope that this submission, albeit necessarily short, has given the Committee a flavour of the unique national asset that the FSS firearms staff and collections constitute. Any break-up of this asset would have a serious negative impact on the delivery of firearms forensic science to the CJS. No private provider or indeed the police, be it through NABIS or the Metropolitan Police, have the competent capacity to take on all the work currently carried out by the FSS firearms forensic scientists. If the FSS is to be wound up, an argument could be made for the wholesale transfer of niche units, which are most probably non-"profit" making, such as the FSS firearms capability to the police or a private supplier. However this would be to ignore the arguments we have put forward concerning perceived impartiality when it comes to the police. Or when it comes to private suppliers, issues of national security and the need to make a profit. In either case it would be essential for either type of organisation to be accredited to ISO17025, which not only embeds a Quality Management System but also ensures the recording of on-going competency. We would also urge you to accept that if such a wholesale transfer were to take place it would be iniquitous to transfer individuals who have dedicated their entire careers to public service on terms that were not covered by the Transfer of Undertakings (Protection of Employment) Regulations, known as "TUPE". A transfer to an individual police force would also have to have in-built safeguards so that the provision of firearms forensic science to other geographic areas would not be compromised. We feel that the Judiciary, The Bar, The Law Society, the IPCC, The British Association of Forensic Medicine and the UK Coroners would support the need for us to continue in providing a public service and we urge you to seek their opinions. Finally I would like to finish with a question and a *cri de coeur*; if the FSS firearms capability were to be disbanded who would provide the forensic evidence in the next spree shooting, Rhys Jones case or terrorist outrage? Fortunately in the UK we have relatively low levels of gun crime compared with the USA and some of our continental neighbours, however every fatal shooting is a tragedy and every gun incident has a profound effect on our communities. Between 1998 and 2009, there were, on average, sixty-three firearms homicides each year and hundreds more attempted murders and wounding.¹⁹ We hope that the Committee would agree that to do without the input of the most experienced firearms forensic scientists in the land could in itself constitute a crime against justice.

Mark Mastaglio
Principal Scientist

9 February 2011

APPENDIX

All members of the FSS Firearms Units have seen this submission and agree with its contents. They are:

| | |
|---------------|---|
| B J Astley | (Firearms Team Leader, 12 years service) |
| P G Brookes | (Senior Forensic Scientist, 32 years service) |
| R H Griffiths | (Senior Forensic Scientist, 27 years service) |
| A G Hannam | (Senior Forensic Scientist, 10 years service) |
| S I Harries | (Forensic Examiner, 10 years service) |
| D Henshaw | (Firearms Team Administrator, 9 years service) |
| I Johnson | (Senior Forensic Scientist, 31 years service) |
| D Lewis | (Firearms Team Administrator, 12 years service) |
| I Maginnes | (Forensic Scientist, 10 years service) |
| A McCarthy | (Forensic Scientist, 10 years service) |
| N Musgrave | (Forensic Scientist, 12 years service) |
| P Olden | (Senior Forensic Scientist, 22 years service) |

¹⁷ ISBN-10: 0-309-13135-9, ISBN-13: 978-0-309-13135-3

¹⁸ Science and Technology Committee Report, Forensic Science on Trial. No.36 of Session 2004-05 28 March 2005.

¹⁹ Home Office Statistical Bulletin; Homicides, Firearm Offences and Intimate Violence 2008/09, 21st January 2010. ISSN 1358-510X

| | |
|---------------|--|
| G Pask | (Firearms Team Leader, 6 years service) |
| M N Robinson | (Senior Forensic Scientist, 24 years service) |
| P C Rydeard | (Senior Forensic Scientist, 41 years service) |
| E Sargeant | (Forensic Examiner, 3 years service) |
| C Shurrock | (Forensic Examiner, 10 years service) |
| G Silcock | (Firearms Team Administrator, 4 years service) |
| A Skae | (Senior Forensic Scientist, 10 years service) |
| F A Tomei | (Senior Forensic Scientist, 37 years service) |
| M J K Vaughan | (Senior Forensic Scientist, 18 years service) |
| R Woods | (Forensic Scientist, 9 years service) |

Written evidence submitted by Professor Ronald C Denney (FSS 24)

HISTORICAL

1. The international reputation of the Forensic Science Service (FSS) in all areas of development and application of forensic studies has for decades been acknowledged and the quality of their scientists recognised throughout the world.

2. The present FSS structure came about following the merger of the former Metropolitan Police Laboratory and the closure of the Aldermaston Laboratory along with the creation of the FSS as an agency. This resulted in an organisation with 6 laboratories providing a forensic analysis service to England & Wales.

3. In addition to its main legal work, the FSS has in past years provided work experience and industrial training for students from universities who wished to pursue careers in forensic science.

4. At the end of 2010 the laboratories at Chepstow and Chorley were scheduled for closure.

THE IMPACT

5. The break up of the FSS will lead to the dispersion and early retirement of a large number of highly skilled scientists. Many of these, because of their initial backgrounds in chemistry, biology and biochemistry, have a depth of knowledge and experience which will be difficult to replace.

6. The closure of the Chepstow and Chorley Laboratories has meant that highly qualified people have already moved out of forensic science into other occupations, or none at all.

7. It will also mean the dispersion of staff from centres of excellence and the disposal of expensive ranges of specialist equipment.

8. As the FSS is a major employer in forensic science its closure will undermine the enrolment and training of students in the subject at Universities until the profession has become restructured and absorbed the developments that will be needed following the loss of the FSS. I envisage that consolidation in the industry will take at least two to three years. It is not a transition that can be accommodated overnight.

THE IMPLICATIONS

9. The impartiality of forensic evidence depends on the integrity and ability of the scientists, not whether they work for the FSS, LGC Forensics or any other laboratory. However, the quality of the results produced depends upon the skills of the scientists and the nature of the equipment and facilities available.

10. If the skilled scientists are lost and their equipment dispersed or disposed of there will inevitably be a vacuum for a time that will need to be filled eventually by the private sector. This gap will be filled but it will take time due to commercial caution especially at a time of cuts in public expenditure.

THE FINANCIAL POSITION OF THE FSS

11. The claims are that the FSS has been losing £2 million every month during 2010. I am not in possession of detailed financial figures for the service. However, part of that cost must arise as a result of the inner city locations of London, in Lambeth Road, and Central Birmingham. Such locations are probably not necessary. Also the closure of Chepstow and Chorley must have already cancelled out the bulk of this monthly loss.

12. Part of the problem faced by the FSS has come about due to competition with private laboratories that in some instances have been able to "cherry pick" areas of work when tendering for Police and prison contracts. This enables them to undercut the FSS in their quotations as they do not necessarily have to provide a comprehensive forensic service.

13. There is also an indication that some County Police Forces have been building up their own forensic science units to reduce using the FSS or other external bodies. This has reduced the amount of work being sent to the FSS and other commercial laboratories.

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14. Scope for reducing overheads in the FSS have existed—the classic one is in the security control at the London Laboratory where visiting scientists are checked through three security desks including two in the same room six feet from each other.

15. The financial situation of the FSS could have been addressed by a more objective assessment of the locations and sites occupied, possible reduction in the duplication of expensive equipment and by not retaining retired forensic scientists on a part-time and consultancy basis.

PROSPECTS FOR THE FORENSICS MARKET

16. The short term prospects will be difficult. The private sector is not large enough to take on the FSS load within a short space of time. Over an extended time, two or three years (as indicated above), the private sector will undoubtedly be able to develop and expand to accommodate the range of work required.

17. The difficulty will be in stopping the private sector from “cherry picking” and contracts will need to cover broad areas of forensic work not just selective lucrative areas.

18. I have little confidence in the Police Forces setting up viable, unbiased forensic science units and believe their expansion should be limited to their Scene of Crime Officers with all analytical work being carried out by totally independent bodies.

ALTERNATIVES TO WINDING DOWN THE FSS

19. I have already indicated some areas of potential change which could save on costs and make the FSS financially viable. A full assessment of the running costs of each site is, of course, the first priority. I would assume that this has been carried out, but do not have any figures.

20. The next step is to consider the distribution of scientific work and to assess what can be concentrated on individual sites in order to reduce the duplication of equipment and staff.

21. A third step would be to look at the salary and career structures along with the demographic distribution of staff in the light of possible relocations and reassignments of duties.

ARRANGEMENTS FOR CLOSING DOWN THE FSS

22. I have no doubt that redundancy conditions for FSS staff will be fairly generous, but am sure most of the scientists would prefer to keep their jobs. However, I am not familiar with the arrangements for disposing of the assets. From previous experience of the closing of laboratories in other industries I am well aware that excellent equipment has frequently been disposed of at ridiculously low prices and even junked. In these situations there tends to develop a “lets get rid of it” attitude in order to get the disposal over as rapidly as possible.

23. The best disposal would be for private companies to purchase complete laboratory sites and equipment in order to continue straight on with cases in hand. Hopefully they will be able to re-employ some of the redundant staff.

24. The big problems will arise with long term and on-going cases with which the FSS is already involved. I know from my own experience that these can often take as long as two years to be fully dealt with. The transfer of work can be a minefield for the prosecution and a picnic for the defence looking for loopholes, errors and inefficiencies.

25. The matter of redundant and transferred staff being required to give oral evidence in delayed court hearings also has to be addressed and planned for.

ADDITIONAL POINTS

26. In many respects this inquiry, important as it is, does not go deeply enough. The growth of forensic science internationally is such that we, as a nation, should be looking at all of the fields related to the education, training, research and provision of forensic science services.

27. The decision to close down the FSS in the absence of an in-depth assessment of the national needs and facilities presently available is putting the cart before the horse.

28. The forensic science units and studies in university courses need to be fully assessed and graded for the depth and quality of the science that is actually taught. In some instances forensic science study units are in danger of scraping the surface of the subject and presenting a simplified picture of forensic science, as do television drama programmes. As a result students may obtain a diploma or degree which includes a very limited aspect of forensic science and does not adequately qualify them for working in the field.

29. We also need to ensure that there is reliable, well financed, in-depth research to develop and advance areas of forensic science and to establish a body that is responsible for supervising and guiding the direction of such work. Without some focus the research becomes disjointed and piecemeal.

30. The closure of the Aldermaston FSS Laboratory meant the loss of one of the pioneering forensic science laboratories in the world as well as the redundancies of internationally respected scientists. Research is paramount to the development of the science and to increase the throughput of samples. This feature has to be considered in any future for forensic science and the nation's needs.

31. The proposed closure of the Forensic Science Service is ill-thought out, premature and at this stage likely to undermine the international status and reputation of what has been achieved in this field over many years.

DECLARATION OF INTERESTS

Professor Ronald C Denney

I am an independent consultant forensic scientist and I provide a service to solicitors, barristers, the CPS, Police, the IPCC and insurance companies. I have worked in forensic science for 40 years and have given evidence in numerous court hearings throughout the whole country at all levels from magistrates' courts to the Central Criminal Court.

During my work I have visited all the FSS laboratories as well as many of the commercial forensic science laboratories in order to check their work, procedures and results as well as to study the items that may have been sampled and analysed. As a result I am familiar with the quality of the work carried out in the FSS and the enormous skills possessed by many of the scientists.

When I was a full-time university lecturer I also helped train some of the students who later went on to work for the FSS. I am now visiting Professor in Forensic Science at Kingston University where I lecture on drink and drugged driving and on DNA analysis.

I regularly meet other forensic scientists, including those from the FSS, at science meetings and conferences.

Professor Ronald C Denney BSc, Hon DSc, PhD, CSci, CChem, FRSC, FFSSoc
Independent Consultant Forensic Scientist

9 February 2011

Written evidence submitted by David Baldwin (FSS 25)

DECLARATION OF INTEREST

I have been a forensic scientist since 1974 when I joined the Metropolitan Police Forensic Science Laboratory (MPFSL) and an employee of the Forensic Science Service (FSS) since the merger of the two organisations in 1996. I am the Principal Scientist for marks within the FSS where I am responsible for dealing with a wide range of offences including murder and terrorist incidents. I am also responsible for the scientific quality and consistency within the work area and set the Standards and Competency required. I was a Lead Assessor for the Council for the Registration of Forensic Practitioners (CRFP) and I am the Chair of the European Network of Forensic Science Institutes Expert Working Group Marks. I produce this written submission to the committee in my private capacity.

1. What will be the impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?

1.1. I believe that the common consensus held by forensic scientists throughout the world is that the effect will be devastating and is almost certain to have a detrimental impact on the quality and weight of evidence available to the Criminal Justice System.

1.2. It is very true that forensic science is used in a small percentage of cases that are put before the courts but it is often a crucial part of the overall picture put before a jury.

1.3. It is difficult to see at the present time how forensic science will be delivered in the future. The Forensic Science Service has approximately 60% of the market at the present time and deals with something in the order of over 100,000 cases per year. It is very difficult to see how this work will be transferred out of the Forensic Science Service and there be no decline in the quality and timeliness of delivery.

1.4. There are many internationally recognised experts in the Forensic Science Service and many do specialist niche areas of examination. These experts and their years of expertise will be lost.

1.5. One of the main concerns expressed by scientists within the Forensic Science Service and by forensic colleagues all over the world is the potentially devastating effect the closure will have on Research and Development. It is the very important relationship between researchers and actual practitioners that makes the work of the Forensic Science Service so important and within the UK market almost unique.

1.6. The Forensic Science Service plays a leading role in ENFSI (European Network of Forensic Science Institutes) and at present time the post of Chair of four out of the sixteen Expert Working Groups is held by a scientist from the service. Scientists from the service are also active members of the other working groups. The Forensic Science Service was one of the original organisations involved in forming ENFSI and has always

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supported and contributed towards its success. The commitment that the Forensic Science Service has to the success of ENFSI in terms of time, money and resources is high and may not be sustained by other forensic providers.

2. What will be the implication of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

2.1. As a practitioner for over 30 years it is not my own position that I am desperately concerned about but it is what the Criminal Justice system will be deprived of when the Forensic Science Service closes and what will take its place.

2.2. Many of the private providers have good quality staff but are working within an environment where much of the work they are able to do is governed by what the police are willing and able to pay. They must therefore make difficult decisions about what they can do for the money and what has to be dropped. This is not a position that any scientists like to find themselves in.

2.3. Of more concern is that forces will take more work in-house and not necessarily have the will or understanding regarding the delivery of forensic science. It can be argued that for the majority of work that may be delivered in-house there will be no problems and their work will be of the quality that is acceptable to the courts. However, I understand that there are already a number of cases that have been delivered by in-house staff that are incorrect. These are just the cases that we know about and may be just the tip of the iceberg.

2.4. The question of impartiality was often raised in court during my time at the Metropolitan Police Forensic Science Laboratory. Scientists were sometimes questioned about being biased towards the police as they were part of the same organisation. This was recognised by senior management and the structure and organisation of the laboratory was such that we could argue and demonstrate our impartiality from external influences and pressure. The Courts were always our ultimate customer, clearly reinforced when I recently attended the Court of Appeal to give evidence and I am not sure that the impartiality and quality of work will be unaffected by work being delivered by in force scientists.

3. What is the financial position of the Forensic Science Service?

3.1. I do not think that there is any argument that the Forensic Science Service is losing money and something has to be done. I would however argue that the money being lost by the service compared to the amount of money being spent on crime investigation is very small. Do we count the cost of a terrorist investigation, how much money is actually saved by using forensic science; in fact do police forces know or understand what contribution forensic science makes to investigations and detections. They know how much it costs but not its worth.

3.2. The Forensic Science Service has had a programme of work running for the last 18 months or so which has looked at producing the leanest and fit for purpose examination processes. There was money provided by the Government of the day for this work and it has been recognised that major changes had taken place and our costs and overheads were coming down. However the budgets available to the police have been slashed due to the financial situation and the amount of work being submitted to all service providers has fallen significantly. It is difficult to see the submissions going up in the next few years as more money has to be saved. I do however wonder how much it is costing forces to establish their own or shared forensic facilities. As a tax payer it appears mad to allow one world leading forensic service to die and have the police set up their own small labs. Is it known how much all this is costing the police?

4. What is the state of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the Forensic Science Service and the volume and nature of the forensic work carried out by police forces?

4.1. As a practitioner there are good scientists in the private sector many if not the majority once worked for the Forensic Science Service where they trained and developed their skills and expertise. It is however, a very different place to work than it was just five years ago.

4.2. I think that there have of course been benefits from making the forensic market open to market forces including a more customer focus, reduction in turn round times and reduced costs. I do however feel that this has been at considerable cost to the provision of quality forensic science. It is difficult to balance, reduced cost and reduced turn round times with maintained quality.

4.3. I consider the forensic market to be immature and to a very large extent run by "bean counters" bent on getting forensic science at the cheapest cost. Many aspects of work such as drugs analysis and to some extent DNA are now very cheap to the extent that companies make small if any profit. There may be a case for increasing the price or not doing it at all.

4.4. Some areas of work in the Forensic Science Service have stopped because they were seen as unsustainable. Computer crime, video work and audio work have all been withdrawn. I am afraid that we are not far away from the situation where there may be a major incident where a Senior Investigating Officers will

want something done and no one will be left to do. It will be a case of you don't know what you had until it's gone.

4.5. There are of course people available to do the work which are at present within the Forensic Science Service but may move or join another provider. There are many members of staff who will leave and take all their expertise with them.

4.6. As to the ability of the other forensic providers being able to deal with the additional work. I find it difficult to see how it is going to happen. I know from contacts with colleagues now working for other providers they will have significant issues relating to accommodation, costs etc.

5. What are the alternatives to winding-down the Forensic Science Service?

5.1. It is my belief that the Government has made the decision that to keep private forensic providers in the market, more work must be made available and so the Forensic Science Service has to be sacrificed.

5.2. I strongly believe that there is a place for a Government sponsored laboratory. All the major countries in Europe and America have laboratories that are owned by the state. These tend to deal with the most high profile cases and are at the forefront of R & D. It is clear to me that this works and delivers excellent forensic science and cutting edge developments which could be made available to all forensic providers. I would therefore like to see a state owned forensic laboratory established that keeps the best traditions of the Forensic Science Service but is restructured and more focussed in the work undertaken.

6. So far as they are known, are the arrangements for closing down the Forensic Science Service, making staff redundant and selling its assets adequate?

6.1. It is very difficult to tell whether or not the arrangements are adequate as it seemed that the decision was taken and an end date of March 2012 announced without any real thought of how to get to the end point.

6.2. It is very difficult to see how all the work required will be completed in that time frame. None of the other providers expected this announcement and the changes that will have to take place are enormous; transfer of people, potentially new laboratories, new buildings, loss of expertise etc.

6.3. There appears to be a lot of stock put on what the police want. I see little contribution from the "courts". I am not sure that the police are necessarily best placed to decide what is good for the science. They appear to be much more concerned with what it costs and how fast can it be done. As they do more in-house this can only become more of a concern.

6.4. At the present time nothing has been decided and the staff are very much waiting for any clarity as to what will happen to them. Many have dedicated their life to the Criminal Justice System and are finding it very hard to come to terms with the decision. They do not feel that this will enhance the service that the general public obtain and to many who have been in the service for a long time. We appear to be going back to the days before the Home Office Forensic Science Service was in existence.

David Baldwin

9 February 2011

Written evidence submitted by Amanda Meaby (FSS 26)

I, Amanda Suzanne Douglass Meaby, am currently employed as a forensic biologist at the Forensic Science Service London facility. I have worked there since June 1996 and in that time I have worked on many hundreds of cases involving the analysis of body fluid staining and interpretation of DNA profiling results. I regularly provide evidential and intelligence assistance to the police and Criminal Justice System and this includes complex, high profile and sensitive matters. The direct impact on my family will be redundancy for both myself and my husband (he is also employed as a forensic scientist at the FSS London) with only a limited possibility that both of us would be re-employed in an alternative organisation. We do not have the financial security to sell our home and buy another. We also have the welfare of our two young children to consider.

1. It is essential that there is funding for innovation in the field of forensic science. The Forensic Science Service has been at the forefront of scientific advances in the field of forensic science for many years. Whilst I do not necessarily believe this needs to sit solely within the public sector, this area of the work must be placed in a sensible position with the supply of forensic science so that research done can be appropriate to the issues being faced in current case work and in the review of cold cases. Self-financing of such work is impossible when police customers are demanding quick and cheap forensic science and are therefore reducing any potential profit to be made.

2. The Forensic Science Service is a well respected organisation with a world recognised reputation. Impartiality and quality of work is of the utmost importance to ensure that the case work the organisation produces meets the high standard required for challenge via the Criminal Justice process. Staff training is rigorous in order to prove the scientists are competent to carry out their work and this is regularly monitored. Case work carried out is regularly subjected to audit via the United Kingdom Accreditation Service and there

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are staff dedicated to respond to quality issues highlighted so matters can be resolved efficiently via corrective action if deemed necessary. These standards cannot be easily or quickly achieved. It is also vital that an organisation has an experienced staff complement to avoid fragmentation of the continuity of evidence, which in the field of forensic science, cannot be gained once it has been lost. I am very concerned that the significance or impact of a case's findings could be mis-understood by the court if exhibits for examination are passed around to different organisations when the importance of continuity records is not fully appreciated. I am aware that the UKAS accreditation is a requirement for non police organisations but not for work conducted within the police force itself. In my view is certainly disadvantageous to the FSS/private suppliers as they have expenditure in this area that is not felt by the police. This should have been properly regulated.

3. I understand the Forensic Science Service's financial position is currently very poor. In my view, this has been brought about by the police customer demanding cheap and quick forensic science whilst the Forensic Science Service has battled against this to ensure the work is robust, impartial and of the high quality required by the Criminal Justice System. The FSS was given the opportunity to re-shape in order to meet the increasing demands of the police customer yet maintain its high standards and this transformation programme had gone exceptionally well. Unfortunately, the Home Office announcement on 14 December halted the transformation programme and now we will never know the true benefits of this investment in staff and intelligent property.

4. I do not believe the private sector can carry out all of the work currently performed by the Forensic Science Service. There are some commodity/test based procedures that would be relatively easy to set up and can be run for a small profit. However the FSS responds to complex and high profile work including national and international atrocities as it has the multi-discipline skills, expertise and man power resource as well as the reputation to complete the work very well. It is also important to consider whether the set up of new or expansion of existing forensic suppliers would be in proximity to the distribution of the skilled staff that would be redundant from the Forensic Science Service. Whilst findings alternative employment would be vital, given the current financial climate and the unstable forensic market, individuals are unlikely to relocate to a new area and incur great expense of moving house etc if their new role may not be available for the long term. Therefore it is likely that the experience of the county's forensic scientists will be lost. This cannot be regained overnight as the training of a new court reporting officer will cost tens of thousands of pounds and can take up to a year to complete basic training.

5. It is essential the Forensic Regulator takes action to ensure all suppliers of forensic science comply. As police in sourcing does not demonstrate impartiality, this should also be reviewed. In my opinion, the FSS should be allowed to complete its transformation programme whilst these matters are investigated and then assess the FSS's position in a fair market. I also believe that this country should ensure they have a forensic response in place to deal with any terrorist atrocity resulting from the London Olympics in 2012 as surely this event would make an ideal target.

6. I do not believe the FSS can cease operations by March 2012 given the complexity of the matter in hand. There are many factors to consider in order to achieve such a great task, one of the priorities is having a work force skilled enough to complete the task in an orderly manner. I do not believe it is right to ask the FSS to review its current redundancy terms when the closure of the FSS has already been announced. It can take many months to investigate a crime and for many, this extends into years. Therefore this requires careful planning by people who understand the implications if it is not conducted correctly.

Amanda Meaby

9 February 2011

Written evidence submitted by Mike Chan (FSS 27)

1. What will be the impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?

1.1 Forensic science covers a vast area, from DNA to glass fragments to computer interrogation. Historically the FSS has contributed in the development of forensic science as a world leader.

1.2 This does not mean that the FSS is the only organisation which is contributing to the development of forensic science in the UK. The development of forensic science is currently being carried out by research institutions or private companies, both within the UK and also in the international community.

1.3 Regular conferences and seminars are held to enable scientists to share knowledge and co-operate in the development of forensic science. Along with numerous research panels and working groups, the direction of forensic development is not solely dependent upon the FSS.

1.4 The issue with the loss of the FSS would be with non-profitable research and development, which will be restricted due to the need by commercial organisations to only conduct research in areas where there would be a financial benefit. The NPfA can provide some guidance to the direction of forensic development, but this will need to be considered against market forces.

1.5 We must also consider that developments for forensic science will arise from research in areas of scientific development outside forensic science. For example:

- 1.5.1 medical genetic screening will provide advances for DNA analysis;
- 1.5.2 analytical chemistry will provide advances in drugs analysis; and
- 1.5.3 microscopy will provide advances in glass analysis.

1.6 There are numerous occasions where the FSS has invested time and money into a project with little consideration to the requirements of the Police or CPS. Often research projects were undertaken for the benefits of scientific advancement, rather than the delivering a product that would be beneficial to the Police. For example:

- 1.6.1 The research into long term storage of DNA samples from suspects on FTA paper.
- 1.6.2 Lab in a van/Forensic Response Vehicle.
- 1.6.3 Miniaturisation of DNA processing.

1.7 There is the assumption that the closure of the FSS would be a great loss to forensic science. Even if this valid, is there any justification in the financial cost of sustaining the FSS? Considering the current budget cuts in all public sector spending, can the continued financing to the FSS be justified?

1.8 We must acknowledge that the science and technology applied to forensic science in the UK is not exactly like the work portrayed on TV (eg CSI). In considering the closure of the FSS, we should understand the working conditions and technologies of the FSS rather than attaching a romantic notion created from a portrayal of forensic science on the TV.

2. What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

2.1 Regardless of the service provider, the quality of forensic evidence will be maintained via accreditation and undeclared tests. Several bodies/organisations, which are external to the FSS, have responsibilities of maintaining quality, these include UKAS, Forensic Science Regulator, etc.

2.2 Although the Custodian of the National DNA Database has historically been held by the FSS, this has now moved back into police control (NPJA) and they have the responsibility of ensuring the quality of the evidence held within the database.

2.3 Impartiality is the response of the criminal justice system.

2.4 The processes of the criminal justice system and the use of forensic experts for the defence and the prosecution should ensure forensic evidence is presented fairly and impartially.

2.5 Currently evidence provided by the FSS or any forensic service provider can be challenged by other forensic scientists, which will continue the future, with or without the FSS.

2.6 To assume that forensic evidence is only impartial due to the presence of the FSS is false and other forensic providers often present evidence for the CPS without any involvement of the FSS.

3. What is the financial position of the Forensic Science Service?

3.1 I am not aware of the current financial position for the FSS. Although the finance reports are available on the internet since the transformation to govco to 2009. A brief review of these reports raises several concerns regarding the financial sustainability of the FSS, it is unlikely that restructuring or expansion in turnover will be sufficient in meeting the costs of delivering the service.

3.2 From previous experience, there is a lack of control of spending within the operational areas and the research department of the FSS. Although this is common with many organisations within the public sector, the decision to move the FSS to a govco status should have made the FSS more focused on financial management.

3.3 There have been occasions of failure to take a commercial approach to large scale research projects, which have resulted in no clear exit strategies or benefit realisations.

4. What is the state of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the Forensic Science Service and the volume and nature of the forensic work carried out by police forces?

4.1 Since the transition of the FSS to a govco status in 2005, the forensic market has been developing in the UK. The principals of supply and demand, along with the changes to the financial and political environment will shape the prospects in the forensic market.

4.2 The current prospect are difficult, but this is the same across the whole economic environment in the UK. The budget cuts across the police will put pressure on the size of the forensic market.

Ev w40 Science and Technology Committee: Evidence*5. What are the alternatives to winding-down the Forensic Science Service?*

5.1 There is a core element of forensic work provided by the FSS which need to continue. The highly profitable area of DNA has created a sustainable market, where several forensic providers are currently competing for work with the FSS. The specialised forensic fields (eg Footwear, fibres, glass) has often been a less profitable area and the FSS has financially supported these areas from the revenue generated from DNA analysis.

5.2 If the government wish to retain the knowledge and capacity to process the specialised forensic fields, then a portion of the FSS will need to be funded by the government to ensure that this service continues into the future.

5.3 A key factor for any alternative solution would be the existing management of the FSS. Any intervention or assistance would be futile with the existing senior management, many are scientists which have been promoted into a position of management, but this does not make them good managers or commercially astute.

5.4 From a “market driven” perspective, there is no alternative to winding-down the FSS. It is clear the current management within the FSS is unable to control expenditure or generate sufficient revenue to ensure that the FSS is self sustainable.

5.5 The transition of the FSS from a public to private sector mentality is unnatural to many of the staff. There has been several efforts to adapt, which included the employment of external staff. For example a Commercial Director was brought in to aid the transition, but a lack of support and resistance from the Executive Board resulted in the Commercial Director leaving his position.

5.6 Other instances where the FSS has tried to take a commercial approach to it’s operations includes the application of Lean and Six Sigma methodologies.

6. So far as they are known, are the arrangements for closing down the Forensic Science Service, making staff redundant and selling its assets adequate?

6.1 I am not aware of any clear plans on the process of closing down the FSS. There has been numerous rumours regarding the future plans, but I do not wish to speculate on comments that are unfounded. If you can provide me with details, I can provide an evaluation.

DECLARATION OF INTERESTS

I have numerous friends and several family members working within the FSS, while I have worked within the FSS from 1998 to 2007, in various roles:

Business Planning—Project Manager (2006—2007 March)

Commercial Directorate—Commercial Analyst (2005—2006)

Business Transformation—Project Manager (2002—2005)

Partnership Projects—System Improvement Specialist (2000—2002)

Operational Unit—DNA Analyst (1998—2000)

This has given me a detailed understanding of the FSS and a unique perspective as a scientist and as business analyst.

My interests with the FSS is with the service it provides to the criminal justice system. Although the closure of the FSS will directly affect many friends and family, my opinion is impartial and focuses on the need to provide a service and the cost of delivering the service.

Mike Chan

9 February 2011

Written evidence submitted by Pat Best (FSS 28)*1. What will be the impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?*

The Forensic Science Service currently deals with 60% of casework in England and Wales. Scotland has its own state financed laboratories. Other providers say they can take on the work but have not the staff or finances.

The police “in source” some aspects but have not the range of expertise of the FSS. Some disciplines that are separate, such as blood alcohols could be sold off, and perform their function. Many aspects of violent crime entail scientists of two or more disciplines working on single items to retrieve and not compromise evidence, ensuring the greatest potential evidence is achieved. What will happen if there is a serious terrorist threat or incident?

With restricted budgets there will be little money for research and development.

2. What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

Closing the FSS would mean losing many of the best forensic scientists in the country. Scientific developments over the years bear their names (650 publications since 1988) and new scientists gain immeasurable knowledge working alongside them. I have 31 years' experience and am still learning. I work with colleagues for whom I have the deepest respect and it is quite amazing to see their dedication to their own and the checking of each other's work. **This expertise and experience as individuals and a group can never be replaced.**

Forensic science is not a process, but cases involving clothing, weapons, scenes and vehicles, when circumstances differ and suspects offer various comments need a deliberate yet wide thinking strategy and approach. We share a broad range of skills from DNA mixture interpretation, to comparison techniques and analytical methods. The initial examination is vital and can produce unexpected demands. Skilful presentation in the witness box is essential.

Forensic science should not be just about finding people/suspects guilty. Police forces may be tempted to examine only pieces of evidence for examination that might find a suspect guilty because of financial pressures. Clearly this may have an impact on public confidence in the short term and possible safe convictions in the longer.

3. What is the financial position of the Forensic Science Service?

4. What is the state of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the Forensic Science Service and the volume and nature of the forensic work carried out by police forces?

I am not in a position to answer these questions.

5. What are the alternatives to winding-down the Forensic Science Service?

To retain the scientists, lab and admin support and a limited management, and operate a first class service without the expensive overheads.

6. So far as they are known, are the arrangements for closing down the Forensic Science Service, making staff redundant and selling its assets adequate?

We have no details of how this will be done.

As I have said before, the greatest assets are the scientists.

Pat Best

Forensic Scientist

Senior Examiner in Violent Crime, London FSS

9 February 2011

Written evidence submitted by Edward Braxton Reynolds (FSS 30)

1. The impact of closure of the Forensic Science Service on development of forensic science.

1.1 Before the Forensic Science Service was converted into an agency it supported a Research Laboratory at Aldermaston. The work of that laboratory was focussed on providing a developing repertoire of procedures that could be used in the courts, to enable jurors as well as judges, to interpret the significance of evidence so as to arrive at appropriate decisions confident that evidence was understood.

1.2 Whenever in any service that is constrained to compete with others to secure work there is unwillingness to impart knowledge if, by so doing, competitors may gain advantage. This is typified by the secrecy surrounding conduct of research in the pharmaceutical industry and in all other industries where advances have commercial value.

1.3 Initially Public Analysts provided their own laboratories but later some were engaged as employees of local authorities. In either case so long as tenure of appointment was assured there was largely unrestricted publication of research work but as soon as tendering to secure work was introduced in lieu of nationally agreed fees publication of much of the research and development of methods was withheld, limiting the scopes of analyses available.

1.4 Funded as academic research in the universities, the needs of enforcement authorities, the police, have to be clearly established. This is the more easily established when a service provider has a secure role that is

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assured and is not subject to annual review and reappointment as a service provider. Research has to be focussed on real problems where there is reasonable prospect of successful outcomes and general application.

1.5 There is no good reason why any service that satisfies a public need should be profitable. Indeed, the only material criteria are that the need is properly articulated and, if service responding to that need is achieved, the value to the community of that service is assessed and, if not achieved, the degree of public discontent is quantified.

1.6 If satisfying public need outweighs the cost of failure to provide necessary public protection, that alone is compelling reason to ensure that required research is undertaken.

2. Implications of closure on the quality and impartiality of forensic scientific evidence

2.1 Anecdotal evidence suggests that whenever renewal of contracts for service delivery are dependant on contract supervisors receiving good reports on service providers, there is likely to be undue pressure to provide what the service user wants rather than what the service user should receive. Inevitably, there is likely to be pressure to ensure that prosecution outcomes are considered by the police to be "satisfactory" and that the forensic scientist has not "let the side down".

2.2 Where jobs are reasonably secure, peer pressure alone can suffice to ensure competence. Scientists generally are responsible workers and, with encouragement, will work diligently. Nevertheless, some notorious cases have involved scientists who could not believe that they could possibly have been wrong. Spilsbury is an example. My experience of most forensic scientists is that they are inherently honest and would seek to resist undue and inappropriate pressure. However, they should never be subjected to commercially motivated pressures.

3. Financial position of the Forensic Science Service

3.1 Faced with closure of some laboratories, inevitably the staff morale in laboratories about to close is at rock bottom. Staff, some of whom over many years I have come to respect and admire, have families, their children may be nearing the end of their school education, are naturally unwilling to be uprooted. It is unlikely that many would be subsumed into any new organisation intent on trading at a profit, especially the older scientists, who despite being more experienced will be more expensive to employ and so will be unlikely to be retained. The country cannot afford to lose a whole generation of forensic scientists before they have imparted their knowledge and experience to successors.

3.2 It is costly enough to train scientists, so that to discard the valuable asset of trained scientists who cannot readily be redeployed is deplorable and redolent of the lack of regard shown too long in the United Kingdom for scientists, a situation typified by the closure of the Chemistry Department of the University of Exeter.

3.3 If the forensic scientific needs of the country are competently assessed and the cost of providing suitable services established, the overall burden on tax payers can be quantified. There is no good reason to suppose that the costs of policing, of providing the courts, of providing support for law enforcement, ever will make a profit unless the intention is to impose fines at such levels that the collection agencies will fund all relevant service provision.

3.4 If indeed provision of the Forensic Science Service costs £2,000,000 a month more than the contracted services it provides, it may be that this is a necessary cost to ensure proper governance of the state. In that case, it may be that much of that monthly cost is money spent with other providers in the belief that competitively tendered services do indeed cut costs and do not merely unduly expensively provide profits for commercial ventures.

4. Prospects for the private sector to provide the forensic science services in the UK

4.1 Expressed in the term of reference is the proposition that the "volume and nature of the forensic work carried out by police forces" has to be assessed.

4.2 Whether this is merely a slip of the pen and what is intended to be addressed is the forensic scientific work carried out for police forces may be a matter for conjecture.

4.3 What is evident is that the establishment of the Forensic Science Service was to provide a service independent of police forces, expert in what it does, able dispassionately to address complex issues and able to withstand pressures from officers impatient to secure information necessary to further investigations.

4.4 It has become apparent that use of trained scenes of crime officers, SOCOs, releases some officers to other investigatory roles. However, it is not evident that SOCOs are so independent that they can resist pressures whilst duplication in police forces of resources provided by the Forensic Science Service is likely to be inefficient and costly.

4.5 Unfortunately, the costs that will be incurred when duplicating resources are too readily hidden by creative accountancy, seen by Public Analysts when Trading Standards Departments of local authorities sought to provide analytical facilities so depriving Public Analysts of financial resources and making their then limited service provision appear to be the more expensive.

4.6 It will be argued that service provision sometimes is too slow to be left with the Forensic Science Service especially if laboratories are a hundred miles or more distant. Also, there has to be time allowed for services to be provided competently and when there is competition for a place in the queue for samples to be examined this has to be resolved and the natural impatience of some investigators has to be addressed.

4.7 It is not possible to provide a forensic scientific service with trained scientists sitting at benches waiting for samples to arrive and when unoccupied by work from police forces finding other tasks to keep themselves occupied.

4.8 Undoubtedly the private sector will be able to "cherry pick" the more lucrative high profile tasks and by so doing deprive the Forensic Science Service, or its successors, of the staple "bread and butter" work that inevitably funds other service provision.

4.9 Take away the "bread and butter" work and what is left will fail to be supported when it appears too expensive to use. That consequence has been seen in the work of Public Analysts and it will be seen in the work of successors of the Public Health Service whilst in addition too much expertise has been lost as a whole generation of staff is made redundant.

5. *Alternatives*

5.1 Unpalatable though it may seem to be to many administrators inexperienced in laboratory work, the alternative is to undertake a comprehensive review of national forensic science requirements, identifying and competently costing all the service provision by the laboratories within police forces, the costs of accommodation, instrumental and materials costs, staff training and employment costs, accreditation and other support costs, competently establishing the levels of service provision requirements rather than when previously undertaken examining the demands of a few forces then applying inappropriate multipliers, based on the service level demand per officer in the Metropolitan Police whilst overlooking the limited sampling rates by officers with diplomatic protection and royal protection roles.

5.2 Having identified what truly is the service level provision required, what staff levels are necessary, what are appropriate locations for service provision, what laboratory facilities exist and what changes to service levels can be accommodated as well as the existence of appropriately trained and experienced staff, then it will be possible to identify the true cost to be borne when providing the support required by the police and the courts to be able adequately to safeguard the public.

5.3 Then it may become evident that far from being an unduly expensive service, the Forensic Science Service may need be expanded and the roles of other service providers reduced, possibly subsuming parts of those service providers into the Service.

6. *Adequacy of arrangements for closing the Forensic Science Service*

6.1 Making any trained, active and useful member of staff redundant is wasteful of a most valuable and largely irreplaceable asset. For administrators who remain behind, the loss of a scientist may seem of little consequence and consciences may be clear if some compensation is offered. That is not what thinking members of the public want. They want all of our national resources to be used wisely and not wasted.

6.2 What are the assets? What is their worth? The most valuable of the assets are people. Less valuable are the premises, the equipment, despite initial purchase costs and the developed methods, all of which will have to be taken over, re-accredited and then, if demand can be secured, deployed. Faced with uncertainty that successors to the Service will be engaged to provide services to constabularies, the capital value of assets will be depressed and this will lead to yet further waste of resources expensively acquired.

7. *Declaration of interests*

7.1 I am Edward Braxton Reynolds, I am Bachelor of Science in Chemistry, Master of Chemical Analysis, Member of the Institute of Food Science and Technology, Fellow of the Royal Society of Public Health, Fellow of the Energy Institute, Member of the Royal Society of Chemistry, Chartered Chemist, Registered Analytical Chemist and, although I claim it not as a qualification, Fellow of the Royal Society of Medicine.

7.2 Holding the Mastership in Chemical Analysis, a qualification granted by the Royal Society of Chemistry following examination, I am by statute an Authorised Analyst for the purposes of the Road Traffic Acts.

7.3 In 1972 I was appointed Public Analyst and Official Agricultural Analyst for the City of Exeter, the City of Plymouth and the County of Devon. Following Local Government Reorganisation in 1973 I was appointed Public Analyst and Official Agricultural Analyst and Scientific Adviser for the County of Devon, Public Analyst and Official Agricultural Analyst for the City of Exeter, the City of Plymouth, the Borough of Torbay and the County of Cornwall and Public Analyst for the Isles of Scilly, serving in all a population of about 1.5 million together with a huge farm animal population.

7.4 I retained those appointments until changes in the sampling policies of the authorities, involving massive reduction in sampling rates and the intention to seek competitive tendering of service provision resulted in

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such diminished use of the facilities provided that it was necessary to close the laboratory to all local authority work, making local staff redundant with the loss of all but two staff.

7.5 For several years I was the National Chairman of the Scientific Services Section of the Federated Union of Managerial and Professional Officers, the trade union for Public Analysts. As such, I was responsible for negotiating fees for the work undertaken. Local authorities withdrew from negotiation of fees and by adopting what can only be regarded as "innovative accountancy", the costs of analyses tendered by some local authority run laboratories very significantly undercut the costs of privately run laboratories. Later, after those privately run laboratories had closed, critical scrutiny of some of those local authority run laboratories resulted in their closure.

7.6 I am well aware of the implications for the careers of trained, dedicated and responsible laboratory staff of decisions taken for short term financial objectives by administrators wholly without experience of the provision of analytical services necessary for the effective enforcement of consumer protection statutes when Government officials fail to require local authorities to achieve minimal service levels of enforcement activity.

7.7 So, from personal experience, I am aware of the deceit of some service providers offering cut price and limited scope services when tender specifications are inadequately precise and so are misleading.

7.8 Since graduating in 1964, from 1967 I have provided a service as a consulting forensic scientist. I have accepted instructions on behalf of defendants and prosecuting authorities and I have prepared many hundreds of reports with the single objective of assisting the courts, as well as advocates and defendants, in understanding relevant science germane to the issues to be tried.

7.9 I have seen the changes in staffing levels in the Forensic Science Service resulting from service reorganisations, the loss of valued research facilities, the privatisation of the Laboratory of the Government Chemist, the closure of food science laboratories and food research organisations, the closure of the Central Public Health Laboratory losing a world status facility and the consequent loss of too much of the organised expertise essential to maintaining public health and welfare.

7.10 I have never seen evidence of willingness of Government to assess the minimal levels of scientific service provision necessary to safeguard the quality and safety of food, of consumer durables and health protection. Nor am I aware of any fundamental assessment of service level requirements that will safeguard society against criminal activities. Rather, all services with which I have had contact have evolved to provide excellent safeguards but have been subject to financial constraints and not evaluation of ability the better to provide services that will protect society.

7.11 Providing evidence to another Select Committee, I offered in draft form questions the answers to which, were they in the public domain, would have been of material assistance to that Committee. The Honourable Member for Clywd South was pleased to table the questions, which were duly answered, the answers to most of which would have been available had the statutory provision that Public Analysts make quarterly reports not been administratively discontinued at the behest of the Local Government Association, doubtless anxious least the deficient sampling rates many local authorities adopted would be criticised.

7.12 Whilst local accountability must be applauded, for if properly adopted it truly reflects local needs, nevertheless in enforcement of law designed to ensure public protection, minimal service provision always must be set by Government.

7.13 So too the minimal level provision of forensic science service available to every constabulary must be set if force areas are not to be deprived of necessary service to protect the public by ensuring that crime investigation is not hampered by lack of facilities. Then, adopting local accountability, local police authorities must be able to support the constabularies faced with specific local needs by providing for more use of facilities than the prescribed minimal use.

7.14 That follows the advice of Sir Henry Royce that by spending as much as may be spent wisely, but not unnecessarily, the product will be the best motor-car in the world. Having led for so long in provision of forensic science services, in a world now challenged by criminals, the United Kingdom deserves the best service provision and this may be achieved by utilising, rather than by destroying, the resources available.

Edward Braxton Reynolds BSc, MChemA, MIFST, FRSPH, FEI, MRSC, CChem, FRSM
Consulting Forensic Scientist

10 February 2011

Written evidence submitted by Dr S P Day (FSS 31)

EXECUTIVE SUMMARY

1. The Forensic Science Service's failure to survive in the marketplace is a symptom of a dysfunctional market caused by an inappropriate procurement framework and in-sourcing. The current situation is driving a re-nationalisation of forensic science by the back door to the detriment of innovation, best value and impartiality. I believe that the Government's "*firm ambition that there will be no continuing state interest in a forensics provider by March 2012*"²⁰ can be achieved but a fundamental reform of the Forensic Science market place is needed. I am therefore writing to you to present an outline proposal for the future organisation of forensic science in this country.

DECLARATION OF INTERESTS

2. I am a current employee of the Forensic Science Service (FSS). The views expressed here are my own personal views, not those of the FSS.

ABOUT THE AUTHOR

4. I have 29 years experience as a forensic scientist in a number of roles with both the present Forensic Science Service and formerly with the Metropolitan Police Forensic Science Laboratory. During this time I have acted as an expert, consultant and scientific lead, appearing in court on many occasions, and I have also performed roles as operations lead, a product manager and commercial lead, the last resulting in Green-Belt accreditation in the use of Lean-Sigma tools.

THE FORENSIC SCIENCE MARKETPLACE

5. While the failure of the Forensic Science Service (FSS) might be attributed to poor financial management, a lack of strategic direction and failure to listen to the customer, it should not disguise the fact that the demise of the FSS is a symptom of a wider problem within the forensic marketplace. The market is dysfunctional because of an inappropriate procurement framework focused on purchasing commodities, not services or whole-business solutions and the in-sourcing of work by the police reducing opportunities for growth.

THE CONDITIONS REQUIRED FOR A MARKET TO OPERATE

6. From previous work^{21, 22} it has been established that the forensic market place needs to:

- provide **high-quality** service that meets the needs of the police, the courts and the citizen, reassures the public and **inspires confidence**;
- be **impartial**;
- provide **best value**; and
- be at the forefront of international forensic science through **innovation**.

7. This was generally the view expressed by Mr McFarland in his review in which he recommended that the Forensic Science Service become a GovCo in preparation for full privatisation as a Public/Private Partnership, and he has re-stated these aims in a recent letter to The Guardian newspaper.²³ He believes that the current market is dysfunctional for two main reasons which are:

- That the police are the sole arbiters of what scene of crime samples are sent for analysis.
- Increased in-sourcing of forensic services.

8. The following paragraphs deal with the problems created by the National Procurement Framework and police in-sourcing before discussing the requirements for a healthy and sustainable market.

NATIONAL PROCUREMENT FRAMEWORK

9. As an experienced Forensic Scientist I know that a successful investigation of a case, whether it results in acquittal or conviction, ultimately relies on the material initially collected.

10. In the current commodity-based procurement system as defined by the National Police Improvement Agency's (NPIA) National Procurement Framework, a forensic scientist is rarely involved in influencing what to collect, what to submit, or what issue to address, causing a systemic failure when investigating crime using forensic science.

11. The National Procurement Framework is flawed because it assumes that there is only one type of forensic product but in fact there are two; Forensic Testing, and Forensic Interpretation. It is aimed at delivering commodities, not service.

²⁰ Statement to the House of Commons, Mr Brokenshire, Parliamentary Secretary of State for the Home Department, 14 December 2011

²¹ Home Office, Review of the Forensic Science Service, July 2003, Robert McFarland.

²² Shaping the Future Market for Forensic Science, McKinsey, February 2008

²³ "A Forensic Look", Robert McFarland, letters to the Guardian, 13 January 2011

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12. Forensic Testing products deliver certifiable results using standard operating procedures. The product specifications can be tightly defined and rigorous quality controls can be introduced to ensure the products meet the market-defined standards. Drugs testing, DNA profiling (including user-defined search specifications) and blood/urine testing all fall into this category and comprise approximately 60% of the total accessible forensic market, by revenue.²⁴

13. Forensic testing products benefit from a market economy because there is sufficient demand and competition to drive innovation.

14. Forensic Interpretation products are characterised by their reliance on expertise (not process), by their unpredictability, and their focus on solving a problem. Like CSI on television, every case is different. They are expensive because they require investment in an individual's knowledge, scientific research, and innovation. Forensic Interpretation products make up around 40% of the total accessible forensic market and around 54% of this is the finding and interpretation of body fluids. The rest is comprised of at least 16 other disciplines, each requiring the same degree of expertise. Crimes are often solved by combining two or more disciplines.

15. In the submissions where investigative skills are required the National Procurement Framework drives the wrong behaviour in Scientific Support units. Cases where inadequate or insufficient samples have been submitted or where the strategy for the forensic investigation has been set based on cost or policy rather than effectiveness are common.

16. Because of the way the National Procurement Framework is constructed the forensic interpretation products often find themselves competing against forensic testing products. Getting a DNA profile does not necessarily solve a crime but is a lot cheaper than interpretation of how the DNA got there, which is the more important aspect of successfully solving a crime. Interpretation will only be seen to give value for money when the total cost of crime is taken into account²⁵ instead of just the "forensic spend" as happens in a commoditised market.

17. The current product-based system has no way of valuing a service that changes the way police work, for example by collecting more effective samples or by saving police time that can then be spent on front-line duties.

18. A consequence of this is that some forensic science disciplines, such as Fibres, Questioned Document Examination, Glass Comparison, Paint Comparison, Toolmark comparison, analysis of Noxious Substances and so on are considered expensive and are becoming less used. Eventually the skills will be lost to the country.

19. Forensic interpretation is a holistic service not a series of discrete products and the market should be re-constructed to trade services, not products.

20. **Conclusion:** The National Procurement Framework pricing structure is inappropriate for the majority of disciplines because it drives the wrong behaviours within police scientific support units. Consequently there is a risk that some Forensic Interpretation disciplines will not be available to solve major crime in the future.

POLICE IN-SOURCING

21. The police state that their "spend on external forensic suppliers will continue to fall over the next few years"²⁶ as the effects of budget cuts takes hold. However, their spend on internal forensic science is high already and is set to rapidly increase.

22. There is a growing trend within police forces to undertake forensic science in scientific support units instead of placing the services out to tender. Whole internal industries are growing up around mobile phones, computer forensics, footwear, accident investigation and body fluid searching.

23. The Metropolitan Police have already introduced and staffed a 100-strong laboratory to replace the Metropolitan Police Forensic Science Laboratory (MPFSL) that the Conservative Government of 1995 took away from them, and West Midlands Police, Greater Manchester Police and the Yorkshire forces all have similar plans at various stages of advancement.

24. Fingerprints is a discipline that is completely absorbed into the internal police structure, and this may be the fate of all interpretive forensic science if this trend is allowed to continue.

25. The forensic providers are gradually being replaced with police-owned, state-run laboratories-Nationalisation by the back door. In-sourcing prevents the growth of a true market place and challenges all four of the basic requirements for a market stated above, as described in paragraphs 25-31.

26. **Quality:** regulation in the industry is weak. Forensic science providers already have to attain ISO standards, but police laboratories do not have to until 2015. If internal Police laboratories are to be allowed, then they must deliver to the same quality standards now.

²⁴ Based on submissions by North East forces to the FSS in 2009/10.

²⁵ "The economic and social costs of crime against individuals and households 2003-04", H.O. Online Report 30-05

²⁶ <http://www.homeoffice.gov.uk/publications/parliamentary-business/written-ministerial-statement/forensic-science-wms/>

27. **Impartiality:** McFarland says that “it is stretching credulity that [impartiality] could remain meaningful if the expert owes his career to a police service which, in an adversarial court system, is intent on securing conviction²⁷. Police-owned laboratories will not be seen by the public or courts as impartial, irrespective of whether they are or not.

28. **Best Value:** In-sourcing is felt to be a cheaper option than placing the work with a forensic supplier. However, the real cost of running services in-house is usually under-estimated and laboratories focused on the work of one police force or a group of police forces do not compete and cannot benefit from the economies of scale, shared expertise or from the market forces that drive the best value for the customer.

29. **Innovation:** If the suppliers are all internally focused then improvements will be piece-meal and directed at immediate local problems. Shrinkage and fragmentation of the market, as is happening at the moment, will mean that forensic science providers will have less money to invest, and innovation will cease.

30. One of the strengths of the FSS over the years has been its innovation and there is a groundswell of opinion from eminent forensic scientists such as Dr Alec Jefferys²⁸ and president of the American Academy of the Forensic Sciences, Joseph Bono²⁹ that winding up the Forensic Science Service will be the end of that innovation.

31. As discussed above, a larger external forensic market will create space for companies to grow, and with that growth will come investment and innovation.

32. **Conclusion:** In-Sourcing of Forensic Science is destroying the marketplace and will reduce quality, value for money, impartiality and innovation.

CONDITIONS FOR A HEALTHY FORENSIC MARKET

33. Providing the pricing structure is reformed to prevent inappropriate commoditisation of products and allows innovation in delivery and service offerings, and providing the trend to police in-sourcing is reversed, then demand for external forensic provision will grow and most of the disciplines will survive in the market.

34. One of the terms of reference for the select committee to consider is: “*What are the alternatives to winding-down the Forensic Science Service?*” Given the issues discussed above, I consider the steps in paragraphs 34–41 need to be taken to create an environment that would allow the market to flourish.

35. The full scope of the marketplace needs to be defined by discipline so that it is clear which services are best delivered through in-sourced Police laboratories and which will benefit from market forces. This should include consideration of fingerprints, mobile phones and computer analysis as well as those activities currently undertaken by the FSS.

36. The power of the regulator needs to be increased so that all services, both in-sourced and externally provided, are subject to the same standards of quality and regulation now.

37. The operational laboratory services currently offered by the FSS should be separated from the corporate organisation to create four independent Operational Units (London, Huntingdon, Wetherby and Birmingham).

38. The existing police laboratories identified from action 1 should either be combined with one of the ex-FSS units (para 37), offered to the market place separately or simply disbanded, with subsequent transfer of the demand into the private sector.

39. Staff, management and other forensic providers should be given the opportunity to submit proposals to manage and run the Operational Units thus created. “Pump-priming” finance in the form of business loans for the best proposals may be necessary to ensure that these units can compete in the market place from day one.

40. Any redundancy required would need to be financed by the Government, not transferred to the new Operational Units.

41. The National Framework will need to be reformed so that companies can tender for offering a complete service rather than pricing per product (except where the product can be closely defined). For instance, police could buy a “Burglary Service” to increase detections through forensic science by x% or reduce time spent at a scene by the Scenes of Crime Officer by y%. There would be tangible, measurable benefits expected through purchase of the service that would demonstrate value for money and create the opportunity for innovation.

42. A “Forensic Science Institute” will need to be formed to regulate and support the market. It would include the Regulator’s Office, the databases currently run by the NPIA including the NDNADB, and possibly the training functions of Harperly Hall (NPIA), the Forgery desk (Immigration) and the research function of the police research and development branch (PSDB-NPIA).

²⁷ “A Forensic Look”, Robert McFarland, letters to the Guardian, 13 January 2011

²⁸ “Forensic Cuts”, Letter from New Scientist from Alec Jefferys, 22/1/2011

²⁹ “CSI Chief Condemns Forensic Cuts” Independent on Sunday, 9 January 2011

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43. The Institute would regulate the market and set scientific standards through the Regulator.

44. The Institute would effectively be the ombudsman for Forensic Science; it would ensure co-ordination of Forensic Suppliers in the event of a major terrorist incident, assist in investigation of “cold-case” reviews and in miscarriages of justice.

45. It would ensure rare interpretive services are maintained.

46. It would run databases needed by the industry including those relating to DNA, Firearms, Fingerprints and the Drugs Intelligence Service, ensuring Forensic Science Providers (FSPs) have regulated and appropriate access to the relevant data.

47. The Institute could also take an overview of forensic science training and research and assist FSPs and Universities in developing private/police partnerships to support innovation. It would take over the forensic research of the Police Scientific Support Branch.

48. The Institute would maintain strong links internationally and advise the government on forensic matters.

49. Most of the required organisation exists already but is spread around the police service. Some if not most of the required financing could be raised through rationalisation of existing services currently delivered through the NPIA and other organisations.

50. The Forensic Science Institute would be state-owned, but not run by the police directly. Its function would be to put the interests of the customer first, but it should not be the customer, as it currently is in the Forensic sector.

CONCLUSION

51. Implementing this plan will

- Create a larger external demand.
- Create more competition by introducing more providers.
- Drive best value for the Police service.
- Increase and re-enforce the impartial nature of forensic science.
- Ensure innovation is at the heart of service provision.
- Provide independent national co-ordination of non-profit-making activities.
- Ensure that rarely-used services are preserved.
- Introduce a regulatory framework independent of suppliers and customers.

Dr S P Day

10 February 2011

Written evidence submitted by Forest Forensic Services (FSS 32)

1. What will be the impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?

(a) On Forensic Science

- (i) The procurement of forensic science by Police Forces has driven an increased commoditisation of forensic provision with value adding services being eroded and replaced with simple tests, predominately DNA purchased at lowest price.
- (ii) Police Forces have increasingly insourced elements of the forensic process in volume, serious and violent crimes in an attempt to save money—increasingly submitting a swab of a body fluid for DNA testing rather than items of clothing for evaluation and examination by an experienced scientist. It is the interpretation of the findings in the context of the case that is crucial in a fair and competent Criminal Justice System. The submission of a blood stained swab in an assault case, for example, merely provides evidence of association between a victim and suspect. The detailed examination of clothing for small spots of blood supporting or refuting allegations of involvement in an assault, such as kicking, punching etc are no longer identified or reported.
- (iii) Scientists delivering case-work to forces in the North West South West consortium have seen a significant change in submissions, rarely being asked to provide any level of interpretation. One might ask whether the interests of the criminal justice system are best served in this way. There is a body of scientists who believe this is eroding an impartial approach to interpretation and is leading to evidence being mis- interpreted by the courts.
- (iv) The FSS Sexual Offences Service, endorsed by the HMIC Thematic into the Investigation of Sexual Offences is unlikely to be replicated by a commercial organisations operating on a commodity basis. The SoS delivered a platform of cooperation and joint working enabling the

Police, scientists and voluntary organisations to work together to improve detections and support victims through a partnership approach not supported by commodity suppliers. Smaller Forces in particular benefit from this approach with over 20 signed up to the FSS enhanced service.

- (v) Services designed to maximise the forensic potential during the investigative phases of major investigations (through the FSS MCS and CMIS services) are also likely to be eroded with major investigations increasingly frustrated by a lack of coordination and integration of forensic support into the investigative process, relying rather on a submission of uncoordinated commodity driven tests.
- (vi) Forensic suppliers need to be able to flex capacity to respond to major incidents—the Prostitute Murders in Ipswich, the Soham Murders and numerous terrorist offences are all examples where resources were diverted. A commercial organisation is unlikely to have the capacity to flex in a similar way.
- (vii) Delays in the provision of intelligence in the investigative phase of an investigation, where the Police have increasingly become reliant on forensic evidence, are likely to cause delays to the apprehension of offenders leading to dissatisfaction and greater risk to the general public.
- (viii) The closure of FSS facilities in Chepstow and Birmingham have already led to a significant loss of irreplaceable, experienced scientists who have withdrawn from the forensic community, a loss to the UK as a whole.
- (ix) There is an anticipated 60% drop in available forensic capacity in the UK when the FSS ceases taking casework in October this year. This is against a background where the Police, facing significant cuts themselves, have become increasingly reliant on forensic evidence with volume crime almost exclusively being detected through DNA and fingerprint matches.
- (b) On Development
 - (i) The move of the FSS to a Government Owned Company and expansion of the forensic marketplace resulted in a transfer of strategic development and coordination of R&D at a National level away from the FSS to the NPIA. A subsequent lack of direction, difficulties in the introduction of new technology that ensued (eg DNA BOOST) and lack of coordinated investment have had a significant impact on the development of new technology in the forensic field.
 - (ii) We have been at the forefront of DNA technology and its implementation into the Criminal Justice System for many years. This is now at risk and will be a loss to UK Plc.
 - (iii) The research and development strategy pursued by the FSS has had a real impact on public safety with significant numbers of cold case reviews deploying new DNA techniques on old cases identifying serious and serial offenders who have continued to commit violent acts.

2. What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

- (a) There will be an increasing drive to insource as much of the forensic process as possible with the Police driving a change from an effective, unbiased evaluation of scientific findings as a whole to a DNA test that fails to evaluate the evidence in the context of a case. It is this insourcing that presents a potential risk to the CJS. Casework submissions from the NSW Consortium demonstrate this with Forces searching items outside of an ISO17025 controlled environment subsequently submitting a swab of blood to their provider. It is a hypothesis that needs testing and evaluating by an experienced scientist Submitting a single, heavily blood stained shoe in an assault case when it is the lightly stained, spattered shoe that bears the evidence of activity that the courts require is also becoming common.
- (b) There is a fundamental principal of whether the Police or the CJS are the true customer of any forensic provider. Currently the Police procure and pay whilst the courts are the end user. The needs of the two are not always the same.

3. What is the financial position of the Forensic Science Service?

- (a) Poor understanding of costs of delivery
- (b) A workforce that is detached from the business needs—failing to charge for delivered work or seeking to give customers a good deal that undermines the business model
- (c) A missed opportunity to change culture, process and roles that were identified and modelled through an expensive transformation project and then not implemented by senior management resulting in a failure to manage costs and improve performance.

4. What is the state of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the Forensic Science Service and the volume and nature of the forensic work carried out by police forces?

- (a) The FSS holds a 60% market share that other suppliers need to deliver in a short period of time.
- (b) There a risk that suppliers will pull out of the market if Forces insource significant quantities work, the commercial market becoming unprofitable.

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- (c) A rapid expansion might not fit the strategic business model of existing suppliers and they may be reluctant to invest in a shrinking market.
- (d) Some of the services provided by the FSS do not fit with a commercial model and may not be delivered by any supplier going forwards, a potential erosion of services provided to the public.
- (e) Another supplier pulling out of the now destabilised market will have a detrimental effect on the CJS.
- (f) A loss in capacity see a return to the delays in casework being processed that we saw in the 80s and 90s and the impact of such delays on the criminal justice system with offenders going undetected for months.
- (g) The McKinzie review identified the collapse of the forensic marketplace as a significant risk. Is this the beginning? Given the country is reliant on forensic evidence as a cornerstone of modern policing, the potential impact is of concern.

5. What are the alternatives to winding-down the Forensic Science Service?

- (a) Break up the FSS into a number of smaller, regional businesses, driving competition between them. Each operates a smaller footprint with better control of costs, fewer central overheads, drives a market place but retains capacity, knowledge and experience.
- (b) Drive the Transformation Programme benefits through—reselect all staff to ensure cultural change, change roles and accountabilities, embed new processes, employ managers that challenge the status quo rather than letting them all go.
- (c) Maintain a smaller core cadre of senior scientist to work with the Police, funded through central government allowing the FSS to coordinate R&D and contribute, coordinate and manage the more serious crimes alongside senior Police investigators.

6. So far as they are known, are the arrangements for closing down the Forensic Science Service, making staff redundant and selling its assets adequate?**7. Declaration of Interests**

- (a) I have successfully delivered international projects as a Pre Accession Advisor under the EU funded PHARE Programme in the Czech Republic and Lithuania. The projects delivered quality management systems, DNA Databases integrated into Policing practices together with required legislative change. The second project included a full laboratory build including equipment procurement and enhanced training.
- (b) As Product Group manager within the Forensic Science Service I led on the development of a number of value enhancing services aligned to the requirements of the most serious crimes including the Sexual Offences Service, Counter Terrorism, Cold Case Review and a Critical and Major Incident Service.
- (c) Most recently I managed a Transformation project in the Violent Crime area delivering significant improvements in processes through the deployment of lean sigma design tools and organisational re-design.
- (d) I was made redundant from the Forensic Science Service in October 2010 as a part of the planned restructuring and the closure of the Chepstow site after 25 years of service.
- (e) I have a passionate belief that the Criminal Justice in this country is dependant on a functioning forensic capability delivering the highest quality expertise and that such provision is not best provided through a procurement agenda driving a commoditised approach to purchasing tests combined with escalating insourcing of primary searching and recovery.

Andy Williams
Director
Forest Forensic Services

10 February 2011

Written evidence submitted by Antonio Queenan (FSS 33)

DECLARATION OF INTEREST

I am a forensic scientist who has been employed by the FSS for the past thirteen years. I am making this submission as an individual and any views expressed in it are not as a representative of the FSS.

1. What will be the Impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?

1.1 Already the announcement of the closure of the Forensic Science Service (FSS) has had an impact upon the cost and speed of providing DNA results to the police. For commercial confidentiality reasons I am unable to go into detail but all training in a particular area has now been cancelled and is unlikely to be restarted.

1.2 Niche services are often unprofitable but are widely offered by the FSS in the interests of the justice system. I believe that these services will suffer once the FSS closes. For example, one niche service which has routinely been completed by scientists based at the London laboratory of the FSS, this was discontinued within a few weeks of the closure announcement; the FSS withdrew from this line of work as the cost of moving equipment and retraining staff was deemed too high. Due to commercial confidentiality I am unable to name this niche service in this submission.

1.3 If the private companies take up the call to innovate and conduct research, as a result of the demise of the FSS, it is unlikely that they would be willing to make the results of this research freely available to their competitors in the manner that the FSS has done in the past. This may lead to a situation whereby a person charged with an offence may find the evidence presented against them dependent upon which company the local police force uses for its forensic work. This surely cannot be in the interests of justice.

1.4 The FSS are the only organisation with a long standing forensic science research department and are a world leader in this field, especially in the development of DNA analysis and interpretation. Virtually every advance in forensic science in the UK has been through the work of the FSS. Over the past few years the FSS has undertaken a number of collaborative research projects with several universities which have proved useful. Should all the research presently carried out by the FSS be placed in the hands of the universities, I strongly believe that the quality will decline. Without the direct guidance and input of working forensic scientists there is a danger that the research will not answer the questions that are required by the scientist. Whilst universities are good at conducting experiments they often fail to see the bigger picture and how it impacts on the justice system.

1.5 The London FSS laboratory has the widest breadth of specialists in the UK and are able to cover the full range of services required in complex, high profile cases such as the 7/7 bombings; whilst many of the private companies may be capable of completing this work, I believe that none have the range of specialists based on a single site as is required in a fast moving anti-terrorist case. Once this team in London is broken up it will prove difficult, if not impossible, to replicate it.

1.6 The current forensic market is generally loss making and companies currently cannot afford to invest. The police continue to call for quicker and cheaper forensic solutions but without the ability to make a reasonable profit the market will not work. The introduction of competition to the FSS has resulted in a reduction in prices and faster results for the police. However, I feel that the present failure of the FSS, due to cuts in the police forensic budget, will prove to be a precursor to a catastrophic collapse in the forensic market and the failure of other companies.

1.7 The renowned pioneering scientist Sir Alex Jefferies, who introduced DNA fingerprinting in 1985, has (along with numerous other eminent scientists) denounced the decision to close the FSS in a letter published in The Times and I wholeheartedly support his position.

2. What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

2.1 Over the last few years the volume of forensic work carried out in-house by the police has rapidly expanded. I believe that there is an inherent danger in this in that it may not be viewed as impartial. In-house pre screening by police departments has also led to a decline in the quality of some submissions to the FSS. This may, at times, be due to a failure on the part of the FSS to communicate effectively with the submitting officer on best practice but often is due to a desire for the cheapest possible cost. For example, cases involving footwear marks left at a scene are often screened prior to submission and a single shoe will be submitted to the laboratory for comparison rather than a pair. On occasion the wrong shoe in the pair has been submitted causing delay and increased cost to the police.

2.2 All the work carried out by the FSS and other private companies is quality assured through standards set by UKAS, specifically ISO 17025. However, much of the in-sourced forensic work carried out by the police is not. The police laboratories have been working hard to achieve this accreditation but I feel their efforts may be hampered if they undertake a wider range and greater volume of forensic work following the closure of the FSS. This accreditation is required under European law and this is due to be enforced in 2015; should the police laboratories fail to gain accreditation they will be unable to present their evidence in court. I would like to make clear that I am not questioning the competency of the staff within the police laboratories merely their ability to fulfil the requirements of UKAS within a short timeframe particularly if their volume of work rises.

2.3 The FSS currently carries out numerous cold case reviews every year. Much of this work is only possible due to the FSS' foresight in retaining samples from cases in a secure manner for many years. This retention policy has been carried out, in most instances, at no cost to the police. This huge archive of samples and files will need to transfer to another provider, or to the police, and I feel there is a real danger that evidence will be inadvertently lost.

2.4 The closure of the FSS will diminish the influence of the UK in Europe and throughout the world in the field of forensic science. This is due to the high regard that the FSS is held as evidenced by the letter to The Times, as previously mentioned, and in a letter to the Home Secretary by Joseph P Bono President of the American Academy of Forensic Sciences.

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3. What is the financial position of the Forensic Science Service?

3.1 Prior to the closure announcement the FSS was undergoing a major transformation which was ahead of schedule and below budget; this was on course to deliver a profitable, sustainable business. With the decision to drastically cut the police budget, there has been a collapse in revenue at the FSS rendering the business unviable. Whilst the cuts to the police budget will not come in to effect until the new financial year their forensic spend has already declined. The situation has been compounded by the increase in police in-sourcing. Other forensic providers are also in financial distress. For example, Key Forensics' accounts for 2010 were filed late and contained a shareholders warning that they may not be financially viable; LGC Forensics also continue to be unprofitable and are rumoured to be for sale for a £1.

4. What is the state of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the Forensic Science Service and the volume and nature of the forensic work carried out by the police forces?

4.1 The forensic market is failing; it is immature and appears to be in danger of total collapse. The FSS has 60% of the forensic market; this is a huge amount of work to expect private companies to pick up in such a short space of time. I believe that this poses a huge risk to the justice system, as without a clear viable market place companies are unlikely to be willing to invest in equipment, premises and staff to take over from the FSS. With the current fragile state of the forensic market many of the staff at the FSS are not prepared or are in a position to move to the private companies unless it is under TUPE conditions or after receiving a redundancy payment from the FSS. Furthermore, many staff members are actively planning to leave forensic science as they see no future for themselves in this field. I believe that this loss of highly skilled scientists will be to the detriment of the Criminal Justice System (CJS).

4.2 Anti-terrorist work is traditionally done by the FSS; in future this will be completed by private companies. As previously stated I believe that none of the private companies, in their present format, will be able to undertake this work within the timescales required.

5. What are the alternatives to winding-down the Forensic Science Service?

5.1 All forensic scientists are ultimately responsible to the courts and therefore should come under their jurisdiction. I believe that in order to demonstrate total impartiality and to ensure that profit does not impede justice this should be the way forward. Furthermore, police in-sourcing of forensic work should also be limited to increase the perception of impartiality. This would have the added benefit of helping to stabilise the companies presently delivering forensic science to the CJS and reduce the likelihood of one or more exiting the market.

5.2 The FSS has undergone a radical transformation over the past 18 months, at great expense to the public purse. This was on course to deliver a profitable, sustainable business despite the fact that the government has limited the ability of the FSS to freely compete in the market place. Other companies are free to decline to bid for work but the FSS are expected to be provider of last resort. Despite this the market, as it stands, does not work, with all providers struggling. I feel that the market should undergo a full, independent review in order to determine the best outcome for the justice system.

6. So far as they are known, are the arrangements for closing down the Forensic Science Service, making staff redundant and selling its assets adequate?

6.1 There appears to have been no pre-planning by the government and it has only been since the announcement that several steering groups have been formed to look at the best way to achieve an orderly wind down of the FSS. I strongly feel that there should have been a detailed independent review of the market and alternatives to the closure prior to its announcement.

6.2 The timescale is also too short. In order to close fully by the of end March 2012 the FSS needs to stop taking new cases from the police by approximately the end of June 2011, with certain case types ceasing much earlier (for example murder enquires often run for longer than a year and it would not be ideal to have to change scientists and forensic provider mid way through an enquiry). Having already closed three laboratories (and nearly finished closing a fourth) in the past twelve months it has become clear that several months are required to close a site once operational work has ceased. Therefore, it should be obvious that casework will cease mid way through this year. Unfortunately, this appears to have come as a surprise to both the police and the government who believed casework would continue much later; this was relayed to staff at the FSS by senior managers on a number of occasions.

6.3 When the closure announcement was made the FSS was nearing the end of an ambitious transformation programme. As part of this, the laboratory at Chorley will close this March. A particular case type is mainly run from this laboratory and as part of the transformation the equipment was due to transfer to the London Laboratory and staff were to be trained to undertake the work. However, with the closure announcement this is on hold, awaiting a decision as to whether the transfer and retraining is cost effective. If this work does not transfer to the London Laboratory, or an alternative private company, by the end of February I believe that a huge backlog will quickly develop in the CJS, causing chaos as trials are delayed or discontinued due to

forensic evidence not being available when required by the courts. This is, I believe, being urgently looked at by the steering groups but should have been considered prior to the closure announcement. Due to commercial confidentiality I am unable to state, in this submission, the nature of this case type. I also believe that this situation will be repeated many times over the coming months.

CONCLUSION

I am grateful that the Science and Technology Committee have agreed to hold this short enquiry and I appreciate the opportunity to make this submission.

I believe that the government has failed to properly consider the implications of the closure of the FSS and have ignored the calls of both the FSS and numerous private forensic companies for an independent review of the forensic market. I hope that the Committee will see fit to call for a temporary suspension in the winding-down of the FSS whilst a full, independent review of the forensic market place is undertaken.

Antonio Queenan

9 February 2011

Written evidence submitted by David Sawney (FSS 34)

DECLARATION OF INTEREST

I am employed as a Principal Scientist, based at the London laboratory of Forensic Science Service Ltd. I have worked there since 1979, when it was the Metropolitan Police Forensic Science Laboratory, and before that for a year at the Home Office laboratory at Wetherby. I specialise in several fields of forensic science, including cases involving a range of particulate and chemical trace materials, such as glass and paint particles, textile fibres, oils and greases, irritant and noxious chemicals, together with the examination and comparison of footwear marks and tool marks.

In my particular role as Principal Scientist I am responsible for scientific quality and consistency relating to particulate and chemical trace evidence across the whole of the Forensic Science Service. This includes ISO 17025 accreditation and setting scientific standards and competency criteria for operational scientists.

This submission has been produced in a private capacity—the views expressed do not necessarily reflect those of the management of Forensic Science Service Ltd.

1. What will be the impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?

1.1 Initially, the closure will reduce the available capacity to deal with forensic science casework. The long-term impact of the closure is difficult to predict, but it could be catastrophic. The Forensic Science Service currently employs a number of extremely experienced and gifted forensic scientists—many of these are unlikely to take up employment with other Forensic Service Providers (FSPs), either because staff are unable or unwilling to relocate or because other FSPs don't have a job for them. This would be a significant loss of scientific expertise to the criminal justice system in this country.

1.2 In the current economic climate where police budgets are being dramatically cut, the police as primary customer are seeking to reduce their spending on forensic science as much as possible. While some might see this as a favourable outcome, such a reduction is bound to adversely affect research and development. Genuine research is a long-term investment, often with uncertain outcome. Past experience in industry has shown that when profits are squeezed research is one of the first things to go.

1.3 Many of the developments on which current forensic science practice relies have arisen directly out of research carried out by the Forensic Science Service. While spending on research in the Forensic Science Service has to some extent been cut back of late, it has still continued. An important part of this has been collaboration both with academic institutions, such as Kings College, London, and with partners in forensic science institutions in other parts of Europe under the umbrella of the European Network of Forensic Science Institutes (ENFSI), of which the Forensic Science Service is a founding member and a very active participant.

1.4 In recent years, newer FSPs have started to participate in ENFSI activities, but it seems that they are only prepared (or able) to devote limited resources to this. For example, LGC Forensics (one of the largest alternative FSPs) had previously participated in the European Paint and Glass group of ENFSI, but at the most recent annual meeting in Krakow last autumn they were not represented at all (because, I understand, managers were not prepared to sanction the cost of sending a representative—in previous years they had sent two). This is a short-sighted strategy—forensic scientists in Britain obtain significant benefit from collaboration with our counterparts in Europe.

1.5 The forensic science market in England and Wales is still very immature, and one consequence of this is that the police customers tend to focus very much on cost, rather than value added. One of the effects of this has been seen during tendering processes over the last few years, where different FSPs have sought to win tenders by undercutting their rivals to the extent that for some types of examination it is virtually impossible

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to carry out any but the simplest of cases without incurring a financial loss. Under these circumstances, FSPs then have the choice to either incur a loss or reduce costs by some means. The cost can be reduced to some extent by increased efficiency, but ultimately if a company is to make a profit from forensic science there will be a temptation to achieve cost savings by carrying out an incomplete examination or employing inexperienced staff who can be paid a lower wage.

2. What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

2.1 One would like to think that any forensic scientist would take the view that their ultimate responsibility was to provide impartial evidence of the highest quality to the criminal justice system.

2.2 In practice, many police forces are seeking to reduce or control their costs by in-sourcing forensic science examinations. Under such circumstances there is a danger that scientists working in small units in close collaboration with police officers may come under undue influence to interpret results in a particular way. Even if this does not occur, there is a risk that this will be perceived to be the case by courts.

2.3 Notwithstanding any issues about impartiality, there are likely to be other quality concerns arising from in-sourcing by police forces. It is likely that any forensic science units set up by police forces will be relatively small, which means that resources for training and development of staff will be limited. Scientists examining case items will have limited prospects for development and mentoring by more experienced colleagues, which significantly increases the risk that evidence will be missed and mistakes will be made. It is unlikely that many police forces will be able to afford to equip laboratories to the standard required for a modern forensic science laboratory.

3. What is the financial position of the Forensic Science Service?

3.1 It is no secret that the Forensic Science Service is currently losing a lot of money. One of the reasons why any FSP will struggle to balance the books is the volatility of the forensic science market place. When police forces have less money in the budget, one of the first things to cut seems to be spending on forensic science—unlike expenditure on police wages or overheads on police stations, cutting down on forensic science brings relatively quick savings. FSPs, however, cannot hire and fire forensic specialists on a short-term basis; it takes a long time to train a forensic specialist: at least a year for most simple examinations and often much longer for complex casework.

3.2 While I understand that the government announcement to wind down the Forensic Science Service was precipitated by an urgent cash-flow problem, the timing seems particular unfortunate, given that for the last 18 months or so the company has been going through a radical business transformation programme. This has involved the closure of two laboratories, with a further laboratory to close at the end of March this year. We have looked at many of our processes and looked for ways to make them more efficient and effective. It was acknowledged that this work had already produced significant benefits, although in the short term it is likely to have affected the company's profitability given abstractions for staff training and implementing changes.

4. What is the state of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the Forensic Science Service and the volume and nature of the forensic work carried out by police forces?

4.1 While it is likely that alternative FSPs will seek to recruit at least some ready-trained forensic experts from closing Forensic Science Service laboratories, and there may be a possibility of staff transfers under the terms of the TUPE regulations, there is no guarantee that sufficient numbers of experienced scientists will be willing or able to relocate to the premises of these FSPs. In any case, other FSPs may not have sufficient adequate facilities to accommodate additional staff in the short term.

4.2 The Forensic Science Service currently has about 60% of the market share of work submitted to FSPs by law enforcement agencies. This is a very large amount of work for the other companies to absorb in a short space of time. During the next few months, these companies will need to invest heavily in expanded laboratory facilities and in the recruitment and training of new staff.

4.3 Of perhaps greater concern is that the Forensic Science Service currently employs experts covering the widest range of scientific disciplines within a single organisation. This has allowed a multidisciplinary approach in significant major investigations, including counter-terrorist cases and other high-profile cases, such as the Securitas raid in Tonbridge. This approach allows joint examination of case items and encourages dialogue between experts to facilitate maximising the evidence. It is unlikely that many other FSPs would be in a position to offer as similar level of service.

4.4 With regard to in-sourcing of scientific work by police forces, limitations of scale are likely to limit the types of examination that they can undertake. In addition, their scientists are unlikely to have the scope to significantly develop their expertise.

4.5 Several police forces have already taken on doing some of their own forensic work with the aim of reducing costs. I would question the effectiveness of this strategy. The bill for work done by external FSPs may well be reduced, but the cost of the in-house work they do is often hidden.

5. What are the alternatives to winding-down the Forensic Science Service?

5.1 While I agree that things could not carry on as they were, it is my opinion that a need remains for some sort of state-funded forensic science service in this country. Once the Forensic Science Service has closed, we will be the only major civilised country without a state forensic service provider.

5.2 One possibility would be for a single laboratory to be retained that would deal with all major investigations, specialist casework, research and development work on behalf of the whole country. Results of research work could be shared with all FSPs, which would surely be in the wider interests of the criminal justice system. Such a model would be broadly similar to that currently in Germany, where the Bundeskriminalamt in Wiesbaden supports the work of their regional laboratories.

5.3 A single state-funded specialist laboratory might also be a good way to preserve some of the specialist skills that currently exist in the Forensic Science Service. Such a laboratory might also be able to provide training for other FSPs, so ensuring that valuable skills are passed on and not lost forever.

6. So far as they are known, are the arrangements for closing down the Forensic Science Service, making staff redundant and selling its assets adequate?

6.1 Very little detailed information has been made available as yet. It is clear from the work that was required to close laboratories as part of the Forensic Science Service restructuring that the time and resources required to wind down the organisation should not be underestimated.

6.2 As far as staff redundancies are concerned, I think it is important in the interests of fairness that staff made redundant as a result of the closure receive terms at least as favourable as those staff who were made redundant during the earlier restructuring of the Forensic Science Service.

David Sawney, BSc, MSc

10 February 2011

Written evidence submitted by Claire Franklin (FSS 35)

DECLARATION OF INTERESTS

I am a forensic scientist at the Forensic Science Service, where I have worked for almost eight years as a reporting officer. I am writing this response from a personal perspective, not on behalf of my employer. I have responded to the six terms of reference below.

1. What will be the impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?

1.1 Over many years, the Forensic Science Service has conducted much research and development into new techniques, often regardless of their profitability. The letter to The Times by 33 international scientists and the letter to The Home Secretary from The President of the American Academy of Forensic Sciences show how highly regarded in the world the Forensic Science Service is. The Forensic Science Service created the world's first ever and best National DNA Database and developed ground breaking forensic techniques—publishing around 650 academic/research papers since 1988. I am concerned that private sector companies are likely to be governed by profit and therefore may be less likely or less able to investigate new methodology if there is no obvious financial gain.

1.2 The Forensic Service maintains a large number of experienced staff and specialist equipment suitable for carrying out a wide variety of techniques, including those niche skills that are not often used, but may prove exceptionally useful in more serious or unusual cases. I fear that private companies and police forces will not have the resources to acquire or maintain these skills.

2. What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

2.1 As a caseworker, I examine items from a number of different police forces. I have seen wide variation in the quality of submissions, particularly in regard to exhibit packaging, continuity and supplied information. Insufficient attention to detail in these areas can result in loss of evidence or problems when the case goes to court. Being part of a large public sector provider with vast experience, not motivated by cost, staff members often feed back to police forces to constructively suggest areas for improvement. I am concerned that private companies may not be motivated to do this, as it does not financially benefit them. In addition, if police forces cannot deal directly with experienced scientists, they will not be able to benefit from any feedback.

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2.2 It may be difficult for a jury to understand how police staff can be impartial when investigating their own cases. Have the courts or the Crown Prosecution Service been asked for their views? They are the ultimate user of the forensic evidence given by experts.

2.3 The Forensic Science Service employs staff with a wide variety of skills, many of whom are based on the same site as each other. Complex cases benefit from the collaborations of these staff members, deciding on the best way to examine an item (often by means of a joint examination) and processing the case by internal transfers of the items, rather than sending them externally between different providers according to cost, with any risk to trace evidence or damage that may be encountered.

2.4 The Forensic Science Service has constantly worked to maintain accreditation with bodies such as the United Kingdom Accreditation Service. Whilst larger police forces are able to work towards the accreditation standards if carrying out their own forensic work, smaller forces may struggle to reach standards required, particularly to meet ISO 17025.

3. What is the financial position of the Forensic Science Service?

3.1 I have limited knowledge of the financial position, however, I understand that the Forensic Science Service is currently operating at a loss. I am disappointed that the decision to close the Forensic Science Service came at a time when the Transformation Programme was still underway and so the benefits had not yet been seen. This programme had already commenced the closure of three major operational sites, in addition to smaller sites, with the loss of approximately 750 staff. New equipment had been purchased to improve efficiency and many new processes were being brought in to streamline the work. Cost saving was expected as a result of this transformation, however, this has not been seen due to the announced closure.

4. What is the state of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the Forensic Science Service and the volume and nature of the forensic work carried out by police forces?

4.1 I understand that private companies are also struggling. One has already pulled out of the UK forensic market, one recently had staff working a shortened week and another submitted their accounts late last year, which apparently contained an auditors warning. I understand that the Forensic Science Service currently provides about 60% of the casework that is not carried out by the police themselves. This is a very large amount of work to be transferred to the private sector or to the police. If closure is to be by March 2012, there is not much time to transfer this work, since new casework will have to cease to be accepted far in advance of the closure date. Private companies, if already struggling, are unlikely to be able to afford to employ a large number of staff from the Forensic Science Service to take on the work and benefit from their expertise. If cheaper, less experienced staff are employed, there will be a large delay until these new staff members are trained in-house to a suitable level to take on casework.

4.2 I understand that some work is carried out by police forces themselves and that the nature of this work varies greatly. Larger forces have the capacity to provide more of their own forensic work, however, smaller forces cannot do this and so will be at the mercy of private companies and their pricing structure to obtain forensic services. Services such as fingerprint comparison is often carried out within force, however, many specialist services are not provided due to the expensive equipment and expertise needed.

5. What are the alternatives to winding-down the Forensic Science Service?

5.1 I refer to my answer to question 3. I believe that the transformation programme would have made significant savings once completed and therefore an alternative is to remain open and complete this transformation before making any rash changes.

5.2 The timeframe for closure (i.e. by March 2012) is very tight. An alternative is to extend this timescale to allow for more orderly closure and transfer of casework.

5.3 Niche skills and research into new techniques needs to be maintained and therefore parts of the Forensic Science Service could be maintained to provide certain services. Services that may be provided by forces themselves or by a number of private companies could be reduced or stopped at the Forensic Science Service.

5.4 I feel that consideration of the cost of providing equipment and staff to police forces, if they are to carry out their own forensic work, needs to be taken into account. This cost may outweigh the "saving" of closing the Forensic Science Service.

6. So far as they are known, are the arrangements for closing down the Forensic Science Service, making staff redundant and selling its assets adequate?

6.1 As a staff member, I have not been informed of the arrangements relating to closure or redundancy. I feel that the decision to close may have been made without detailed consideration of all of the consequences.

6.2 Many staff being made redundant will not be able to take up a new job in forensic science, due to a lack of vacancies in private companies or due to personal circumstances such as location. Therefore, a huge amount of expertise will be lost completely from the forensic field. The sudden closure of the Forensic Science Service

will not allow sufficient time for all skills, particularly unusual or niche skills, to be passed on from senior staff to more junior members, limiting the number of people in the forensic field that will have this specialist knowledge.

6.3 Staff have been told that the redundancy terms are being reviewed. If the new terms are very poor, then a likely result of this is a rapid loss of staff as they seek new employment, rather than staying to help finish existing casework. This will further complicate the matter of transferring work to new suppliers. A larger chunk of work will need to be transferred. Many companies acknowledge that their staff are their most valuable asset—this will be lost.

Claire Franklin

10 February 2011

Written evidence submitted by D J X Halliday (FSS 36)

1. I make this submission as a private individual, but I am an employee of Forensic Science Service Ltd. and a member of the Fire Investigation Unit at the Service's London Laboratory.

2. The FSS London Laboratory Fire Investigation Unit's scientists are the only full-time specialist forensic fire investigators employed within the public sector. No facility comparable either in scope or expertise to the Unit is offered by commercial providers that tender for police work.

3. I have serious concerns about the impact that the proposed closure of the FSS will have on the provision of specialist services to the police in the future. By their very nature these services have a limited attraction to commercial providers because they are expensive to maintain and, due to the low level of demand nationally, they only generate small amounts of revenue. I intend to confine my comments to my own area of expertise, however much of what follows may be applicable to other specialist services currently offered by the FSS.

4. The Committee has announced that it intends to look at the volume and nature of the forensic work carried out by police forces, but I would ask it also to examine the role of other publicly funded organisations that provide forensic services falling outside the current scope of ISO 17025 accreditation (the standard required of forensic providers tendering under the NPIA framework).

5. Over the last five to ten years forensic fire investigation has suffered from unregulated competition from the fire brigades, who offer a free service to the police that often extends to the provision of evidence in criminal courts. The effect of this is that since 2005 demand for the Fire Investigation Unit's scene services has dropped by over 50% and police force policies have been changed so that fatal fires are no longer routinely investigated by us.

6. Nowadays the norm is for police forces to use the fire brigade whenever possible, sometimes under the umbrella of a joint arson task force, and carry through quite complex investigations from scene to court without the involvement of a forensic scientist. While the fire brigade services to the police remain free there will always be a serious obstacle to the development of an open and fair market for forensic fire investigation.

7. Over-reliance by police forces on the fire investigation service provided by fire brigades may lead to problems in the future if brigades decide that forensic fire investigation is not a core activity and should be cut back due to budget constraints.

8. Currently commercial providers offer fire investigation by forensic scientists who devote only a small proportion of their time to that activity. This carries with it serious professional and commercial risks because the competence of a scientist to carry out any forensic activity only comes with regular practice, and a customer's willingness to give the work to a provider is entirely dependent upon their perception that the provider's scientists are competent. It has become apparent, and a matter of concern to me that if police demand for scene work drops from its present, already low, level then forensic scientists may not be able to offer the quality of service that has been the norm in the past.

9. Despite a reduction in overall case numbers, the Fire Investigation Unit's services are still in demand for the most technically complex investigations, including anti-terrorist work. To date the FSS has been prepared to underwrite the cost of maintaining its capability to do such work, but I do not think that the same will apply when the FSS is wound down and its functions are transferred to commercial providers.

10. Police tenders for homicide and violent crime work have fire investigation components written into them, but the Unit has carried out a number of scene investigations for clients who have contracts with other providers. The FSS has not been the provider of last resort for some time, but I have always been told that, for fires at least, it is FSS policy that we will not refuse work from police forces regardless of their contractual status. It might be in the interest of the inquiry to establish whether the current fire investigation capability of the main commercial providers is resilient, and what plans they have to meet future requirements if the FSS is wound down.

11. In the light of the above I submit the following questions for consideration by the Committee:

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(a) What are the implications for law enforcement if the closure of the FSS leads to certain specialist functions becoming unavailable?

(b) Should safeguards be put in place to maintain key specialisms that would otherwise have no future in a fully commercial environment?

(c) Is there a case for forensic activities that have negligible commercial potential to be preserved within another law enforcement organisation after the wind-down of the FSS?

(d) If it is deemed acceptable for other public organisations to provide forensic services to law enforcement agencies, then should those organisations be required to meet the accreditation standards imposed upon commercial providers?

D J X Halliday

10 February 2011

Written evidence submitted by Andrea Stanton (FSS 37)**DECLARATION OF INTEREST**

For nearly 14 years I have worked at the London Laboratory of the Forensic Science Service as a Forensic Scientist specialising in Marks and Particulates evidence, including footwear mark, glass and paint examinations. These examinations have involved being part of investigations relating to a wide range of offences. This is a personal submission to the Science and Technology Committee and is made in a private capacity. Some of the information enclosed has been sourced from the Parliament website and from Prospect Trade Union.

Question 1: What will be the impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?

1.1 There has already been letters of concern about the impact of the closure of the Forensic Science Service written by European and American scientists, including Joseph Bono of the American Academy of Forensic Sciences and a joint article in Investigative Genetics titled "*The demise of the United Kingdom's Forensic Science Service (FSS): loss of world-leading engine of innovation and development in the forensic sciences*". Although DNA is the development most well known there are other specialist examinations and developments that the Forensic Science Service carries out that are not known publically. I believe private companies will only invest in research and development of techniques that would result in a profit later on, rather than investing in research and development for the benefit to forensic investigation. I believe the Forensic Science Service tries to balance future development and cost, with cost not necessarily being the determining factor.

1.2 Some techniques are used infrequently and others are not financially profitable. Therefore a private company may not retain these techniques as they are not cost effective and few police forces would be able to provide the accredited expertise given how few examinations are required per police force each year. However, nationally the Forensic Science Service is able to retain a few experienced people who can do these techniques so that they are available when required especially, for example, in a serious or high profile case.

1.3 This also means that a wide range of techniques can be carried out by one forensic provider. In more complex cases one exhibit may be required to be examined for several evidence types. Having all the scientists under one provider maximises the evidence and minimises transfer of exhibits between forensic providers which would result in delays and potentially loss of evidence.

Question 2: What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

2.1 While Forensic Science Providers, such as the Forensic Science Service, have to be accredited to quality standard ISO 17025 the police have no such restrictions at present. James Brokenshire has stated that police will have this in place by 2015. What will happen in the meantime? With police budgets being cut how will police find the money to invest in building the quality framework and demonstrating competency standards in order to obtain this accreditation and maintain it. If the largest forces cannot afford to achieve and maintain accreditation in all areas, how will the smaller forces cope? The Forensic Science Service already has this accreditation and the necessary procedures in place to maintain it.

2.2 The Forensic Regulator role is to set and ensure standards but as I understand it has no real power to enforce them. If forces are doing the bulk of routine forensic science themselves without accreditation, how will the regulator ensure they are all done to the expected standard, especially in times when budgets are being cut.

Question 3: *What is the financial position of the Forensic Science Service?*

3.1 Although it has widely been reported that the Forensic Science Service is losing £2 million a month, James Brokenshire has stated in parliament that this does not take into account the recent and current site closures, job losses and internal transformation programme. How can a decision to close the Forensic Science Service be made without taking these into consideration?

Question 4: *What is the state of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the Forensic Science Service and the volume and nature of the forensic work carried out by police forces?*

4.1 The work done by the Forensic Science Service and the rest of the private sector is allocated by tender process. The private sector is able to choose which parts it tenders for whereas the Forensic Science Service can be instructed by government to bid for work including that which may not be profitable. What would happen if no private company bid for a particular type of work and the police force was not accredited to do that work?

4.2 I understand the Forensic Science Service currently carries out about 60% of the work in the forensic market. If it is to close by March 2012 I expect it will have to stop taking in work over the next few months in order to have time to finish off the work it currently has, to have time to close the Laboratories, properly store the case files for future court appearances and cold case reviews and complete its financial records. I do not believe the private companies or police forces have the necessary resources in place to cope with this amount of work in this timescale. The only outcome I can see is that most of these cases will not have the forensic work done on them, which is likely to result in justice not being carried out.

Question 5: *What are the alternatives to winding-down the Forensic Science Service?*

5.1 I believe that once the full effect of the recent radical changes within the Forensic Science Service have been felt, if this is not sufficient to balance the books then there is likely to be scope for more streamlining of the business, especially given that the major investment for the future has already been carried out.

5.2 There is also the chance to look at the police's in sourcing of forensic work to see the full cost of this (including overheads such as buildings, pensions, HR, ISO 17025 accreditation, support staff). It may be that it is cheaper for police forces to tender out some or the majority of this work then it is to pay to have their own Laboratory or in some cases set up their own Laboratory.

Question 6: *So far as they are known, are the arrangements for closing down the Forensic Science Service, making staff redundant and selling its assets adequate?*

6.1 As I understand it there are no arrangements for the closure. The decision was taken without a detailed look at the wider implications for forensic science and the Criminal Justice System. Since the announcement committees have been set up in order to create a plan for the closure.

6.2 James Brokenshire has said the priority is for continued provision of effective forensics and he will ensure that contracts and capacity will be transferred from the Forensic Science Service. However he does not say who the contracts will go to. Also the government has asked the Forensic Science Service to look at staff terms and conditions again. If they enforce a less attractive redundancy package it is possible staff may leave the Forensic Science Service before the wind down is complete leaving the Forensic Science Service unable to complete the work it already has or to transfer the skills its staff has onto another provider. One of the most valuable assets the Forensic Science Service has is its staff.

Andrea Stanton

10 February 2011

Written evidence submitted by Peter S B Minty (FSS 38)

I am a forensic toxicologist with 35 years experience in the public, private, academic and health sectors, currently employed by the Forensic Science Service (FSS). This submission is my own personal view and does not represent the views of the Forensic Science Service.

I am very concerned that there is insufficient capacity in the private sector to take on the work of the FSS. Consequently the FSS needs to be retained largely intact either in public or private ownership. Failure to do so would very seriously compromise the quantity and quality of the forensic science available to the Criminal Justice System (CJS).

I will confine my personal comments to my speciality of forensic toxicology, about which I am qualified to comment, based on the following experience:

- 19 years at the Charing Cross & Westminster Medical School, as a university lecturer and Director of Toxicology. Consultant to the WHO; represented the UK at the EU on employee drug testing; ex-chairman of the London Toxicology Group. Over 30 papers and publications.

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- 5 years at the Laboratory of the Government Chemist (LGC) as consultant toxicologist. Helped establish drug testing services for HM prisons and the armed forces. Responsible for final medical review of all results.
- 11 years as a Forensic Toxicologist at the FSS, with responsibility for carrying out toxicological analyses for police forces and reporting these to the courts as an expert witness.

RELEVANT POINTS

1. *Cumulative experience:* The FSS has nearly 1,000 man-years of cumulative experience in forensic toxicology which is irreplaceable and in danger of being permanently lost from the Criminal Justice System.

- (a) 360 years (and 25 scientists) will be lost after March 2011, with the closure of the FSS laboratory in Chorley. This has been deemed necessary due to contraction of the market share of the FSS following the policy of opening the forensic market to competition by the previous government. None of these scientists currently plan to remain in the field of forensic science.
- (b) 630 years (and 48 scientists) work at the FSS laboratory in London. This is the largest forensic toxicology laboratory in the UK, and one of the largest in the world. From discussions with professional colleagues in the UK, this laboratory outnumbers the rest of the forensic toxicologists in the UK. Consequently there is not the capacity to absorb these scientists in the private sector, nor to do the work that they currently perform for the CJS.

2. *Quality:* The FSS has invested considerable time, effort and money into developing quality systems to ensure that the highest standards are applied to the evidence that is presented in court. There are relatively few other laboratories that can match this quality standard. This means that there is insufficient capacity in the private sector to take on the workload of the FSS. For example, there is only one other laboratory accredited to do one of the simplest, but most precise analyses, that of alcohol measurement for the purpose of the Road Traffic Act. This laboratory (LGC Forensics) is currently working at maximum capacity and could not cope with the additional workload. Hence a backlog of cases in the courts is likely to ensue with questions being raised over the stability of alcohol as samples accumulate in refrigerated storage whilst waiting for analysis.

3. *Specialist knowledge:* The FSS has a vast reservoir of specialist knowledge which can be drawn on to protect the public against criminals employing drugs and poisons as weapons. (11 scientists in London have each over 20 years of experience). Cases applying specialist knowledge include:

- (a) Interpretation of morphine levels in exhumed bodies in the trial of Dr David Kelly.
- (b) Interpretation of the combined effects of sedatives and alcohol in cases of “date rape” eg of the London Taxi driver, Mr John Worboys.
- (c) Identification of chemical hazards in cases of national security.
- (d) Advice on polonium toxicity in the case of the Russian, Mr Alexander Litvinenko.

The FSS also acts as a final arbitrator to prevent miscarriage of justice, as the result of analyses carried out by other laboratories. In my experience alone this has included:

- (a) Suspected medical negligence/murder of a hospital patient with morphine. Attributed to a morphine pain-pump continuing to operate after death from natural causes, elevating the level of morphine in the blood to an apparently fatal level.

4. *Laboratory costs:* The cost of duplicating the existing FSS laboratory facilities elsewhere is likely to be many millions of pounds. The quality and validation procedures imposed by external quality regulators are time consuming and very costly, and are unlikely to be set up rapidly if the work is transferred elsewhere. These constraints led “Eurofins”, a European based forensic toxicology service, to withdraw from the UK market. Similar constraints are likely to be the reason why no police force has in-sourced its toxicology services. An example of the difficulties in transferring even a small amounts of work is as follows:

- (a) The loss of the Metropolitan Police contract for bulk drugs analysis to LGC Forensics, resulted in 17 staff being transferred under TUPE. LGC had insufficient room or facilities to take these staff and following provision of funds, generous redundancy terms were agreed.

5. *R&D:* The FSS toxicology section has invested heavily in the latest technology to improve the speed of producing results and to reduce the cost to the Criminal Justice System. These innovations include:

- (a) Triple quadrupole mass spectrometers are being introduced to improve speed and quality of service to the CJS. Extensive development costs have been incurred.
- (b) DART-MS. “Magic wand” technology. A substance waved in front of the instrument, typically on the end of a glass rod, is identified in real time. This is the only instrument in the UK.

6. *Recommendations:* Due to the contraction of the FSS’s share of the forensic market from 100% to about 75%, a business transformation program has been instigated. Three laboratories are about to close, releasing valuable property assets. Due to the “credit crunch”, police spending has dropped below that predicted. More time needs to be given to complete this process, to put the business back on a sound financial footing. To protect the Criminal Justice System, the business needs to remain largely intact, whether in the public or private sector. Options include:

- (a) Selling capital assets.
- (b) Reducing non-fee earning staff.
- (c) Suggesting that generous (Civil Service inherited) leave allowances are reduced, e.g. by a week per year per employee, resulting in a minimum 2% saving on the wage bill.

At the same time, intellectual property (particularly in the DNA field) should be protected and not be asset-stripped.

I hope that the Science and Technology Committee will assist to ensure that “*The continued provision of effective forensics is our priority*” (James Brokenshire, Parliamentary Under Secretary of State for the Home Department, 14 December 2010).

I would be very pleased to assist the committee further, or if required to present this evidence verbally.

Peter S B Minty
Forensic Toxicologist

9 February 2011

Written evidence submitted by the Statistics and Law Working Group of the Royal Statistical Society (FSS 39)

1. *What will be the impact of the closure of the FSS on forensic science and on the future development of forensic science in the UK?*
2. *What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?*

1. If the proposed closure of the Forensic Science Service (FSS) goes ahead it will severely damage the research and development of scientific methods for the successful investigation of crime and the logical evaluation and interpretation of evidence.

2. The FSS has consistently provided excellent researchers in their employ with the time and space to develop their ideas with the subsequent long-term benefits to the administration of justice. The most notable example is the introduction of forensic DNA as a service. Peter Gill and others at the FSS took the research of Sir Alec Jeffreys and brought it into practice.

3. At present, the FSS employs several qualified statisticians, Dr Ian Evett, Dr Roberto Puch-Solis, Dr Lauren Rodgers and Dr Anjali Mazumder, to support practice and research. The statisticians are members of the statistics and interpretation group, which also have two engineers, Ismael Mateos-Garcia and James Skerrett, and a biologist, Amanda Kirkham. As far as we know, LGC forensics employs a statistician but we are not aware whether other forensic providers do employ statisticians. Statistics is important as a subject because it is the science that enables an objective assessment of evidence in the presence of uncertainty.

4. The group has led the way in methods for evidence interpretation and evaluation leading to the current Case Assessment and Interpretation procedures in place today. At present the Statistics and Interpretation group, following the experience of Ian Evett and Peter Gill, is working in bringing academic research into practice in two main forensic evidence types: DNA and fingerprints. Without the close connection to casework, it is unlikely for the group to have the insight to complement academic research and to develop systems that are fit for casework. This is important for the taxpayer because the benefits of investment on research is realised in practice. It is difficult to see such work being enabled in a commercial environment.

5. The ability for serendipitous ideas to emerge will be severely curtailed by the closure of the FSS. The FSS is a partner in a 1.2 million euro bid to the European Union under the Advanced Forensic Framework initiative. There are 15 partners in the bid from universities and national forensic science laboratories in several European countries. None is a commercial organisation. Again it is difficult to see a commercial provider or a police service devoting resources to such an activity.

6. We are aware there is a review of research and development in forensic science under the chairmanship of Professor Bernard Silverman. One outcome may be the creation of a fund to which bids may be made for support for particular projects, rather like the responsive mode budget of the research councils. Another outcome may be a call for bids for particular projects. Neither satisfies the provision of time and space which is required for ideas to be incubated and flourish. Large companies like BP can afford research divisions with such time and space. The market size in forensic science precludes the creation of such divisions within the private sector.

7. In response to the fifth question:

5. *What are the alternatives to winding down the Forensic Science Service?*

The Committee may like to consider the US National Academy of Sciences report in 2009 on forensic science. This report is currently the subject of a bill presented to the US by Senator Leahy:

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“To establish an Office of Forensic Science and a Forensic Science Board, to strengthen and promote confidence in the criminal justice system by ensuring consistency and scientific validity in forensic testing, and for other purposes.”

“Title IV: _ RESEARCH” in the bill provides very relevant commentary on research strategy and priorities.

8. The creation of an independent national forensic science institute with core funding from the public purse is the only way in which research and development can be continued. Recommendation 1 of the 2009 NAS report from the USA should be studied carefully and a version tailored to the UK legal system developed. It is given below for ease of reference, with the immediately following commentary from the report.

“Recommendation 1:

To promote the development of forensic science into a mature field of multidisciplinary research and practice, founded on the systematic collection and analysis of relevant data, Congress should establish and appropriate funds for an independent federal entity, the National Institute of Forensic Science (NIFS). NIFS should have a full-time administrator and an advisory board with expertise in research and education, the forensic science disciplines, physical and life sciences, forensic pathology, engineering, information technology, measurements and standards, testing and evaluation, law, national security, and public policy.

NIFS should focus on:

- (a) establishing and enforcing best practices for forensic science professionals and laboratories;
- (b) establishing standards for the mandatory accreditation of forensic science laboratories and the mandatory certification of forensic scientists and medical examiners/forensic pathologists—and identifying the entity/entities that will develop and implement accreditation and certification;
- (c) promoting scholarly, competitive peer-reviewed research and technical development in the forensic science disciplines and forensic medicine;
- (d) developing a strategy to improve forensic science research and educational programs, including forensic pathology;
- (e) establishing a strategy, based on accurate data on the forensic science community, for the efficient allocation of available funds to give strong support to forensic methodologies and practices in addition to DNA analysis;
- (f) funding state and local forensic science agencies, independent research projects, and educational programs as recommended in this report, with conditions that aim to advance the credibility and reliability of the forensic science disciplines;
- (g) overseeing education standards and the accreditation of forensic science programs in colleges and universities;
- (h) developing programs to improve understanding of the forensic science disciplines and their limitations within legal systems; and
- (i) assessing the development and introduction of new technologies in forensic investigations, including a comparison of new technologies with former ones.

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Strengthening Forensic Science in the United States: A Path Forward

<http://www.nap.edu/catalog/12589.html>

The benefits that will flow from a strong, independent, strategic, coherent, and well-funded federal program to support and oversee the forensic science disciplines in this country are clear: The Nation will (1) bolster its ability to more accurately identify true perpetrators and exclude those who are falsely accused; (2) improve its ability to effectively respond to, attribute, and prosecute threats to homeland security; and (3) reduce the likelihood of convictions resting on inaccurate data. Moreover, establishing the scientific foundation of the forensic science disciplines, providing better education and training, and requiring certification and accreditation will position the forensic science community to take advantage of current and future scientific advances.

The creation of a new federal entity undoubtedly will pose challenges, not the least of which will be budgetary constraints. The committee is not in a position to estimate how much it will cost to implement the recommendations in this report; this is a matter best left to the expertise of the Congressional Budget Office. What is clear, however, is that Congress must take aggressive action if the worst ills of the forensic science community are to be cured. Political and budgetary concerns should not deter bold, creative, and forward-looking action, because the country cannot afford to suffer the consequences of inaction. It will also take time and patience to implement the recommendations in this report. But this is true with any large, complex, important, and challenging enterprise.

The committee strongly believes that the greatest hope for success in this enterprise will come with the creation of the National Institute of Forensic Science (NIFS) to oversee and direct the forensic science community. The remaining recommendations in this report are crucially tied to the creation of NIFS. However, each recommendation is a separate, essential piece of the plan to improve the forensic science community in

the United States. Therefore, even if the creation of NIFS is forestalled, the committee vigorously supports the adoption of the core ideas and principles embedded in each of the following recommendations.”

Strengthening Forensic Science in the United States: A Path Forward, National Academies Press, August 2009.

9. This recommendation, and indeed the rest of this report, provides an ideal answer to question 5: “what are the alternatives to winding down the FSS?”

10. There is no conflict of interest so far as the Society is aware.

Colin Aitken
Chairman, Royal Statistical Society
Statistics and Law Working Group

11 February 2011

Written evidence submitted by Deborah Weeks (FSS 40)

DECLARATION OF INTEREST

I have been a forensic scientist since 1989 initially employed at the Metropolitan Police Forensic Science Laboratory and since its merger with The Forensic Science Service I have worked for the latter organisation at its London Laboratory. I am currently a Senior Forensic Scientist specialising in tool mark and footwear mark evidence. I produce this submission to the committee in my private capacity.

1. *What will be the impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?*

1.1 I believe that the closure of the Forensic Science Service will have a devastating effect on the provision of Forensic Science in this country. Forensic Science is a valuable and cost effective tool in the fight against crime. I understand that the Forensic Science Service currently carries out approximately 60% of all the forensic work done in this country. It has experts working in many specialist niche areas of casework who can work together to achieve the best results. In hugely complex high profile cases such as the examination of items in a terrorist case having all the experts together within one organisation and on one site can maximise the contribution from forensic evidence. The scientists can discuss a coordinated approach, work out the best order for scientists in different disciplines to examine the items and, if necessary, carry out joint examinations. This approach will be much more difficult if the police have different contracts with lots of different providers. Currently even if police forces do have contracts with different providers there is still one organisation that can carry out all the examinations on one site i.e. the Forensic Science Service. Once the Forensic Science Service has gone I believe some of the niche services will go as they will be too costly for private suppliers to provide. Once the experts providing these services have gone, we will lose their skills forever. When in the future we realise we still need these skills there will be no one left to train future generations.

2. *What will be the implication of the closure on the quality and impartiality of forensic science used in the criminal justice system?*

2.1 In my opinion the likely affect of the closure of the Forensic Science Service will be that police forces will take more and more of their work in house. I currently carry out work for a number of different police forces and I know from the submissions we receive that there is already a significant variation in the quality of their scene examinations and retrievals. At the moment we are able to feed advice back to the police to try to improve standards but if they do their own forensic examinations as well as their own scene work there will be no one to give this advice and maintain quality. In my opinion this will definitely result in variations in the standards of Forensic Science being carried out across the country and will inevitably result in the reduction of standards overall. I also feel variations in quality will be difficult to monitor across lots of different private sector providers.

3. *What is the financial position of the Forensic Science Service?*

3.1 We are all aware that the Forensic Science Service is losing money. However it is currently undergoing a huge transformation programme to try to become more efficient and reduce its size and costs. In the short term these changes have actually been costing it more money as staff need to undergo training and equipment has to be moved from closing sites. I believe that this programme should be allowed to finish and assessments then made on any further changes needed. The current reductions to police budgets will result in reduced forensic submissions but this will affect all forensic providers and I do not believe that the world renowned Forensic Science Service should be sacrificed just to ensure that the private companies survive.

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4. What is the state of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the Forensic Science Service and the volume and nature of the forensic work carried out by police forces?

4.1 The Forensic Science Service currently undertakes approximately 60% of all case work in the UK. In order to be closed by March 2012 I understand we will need to stop taking in casework within the next few months. I cannot see how the private providers can be expected to make up this short fall in such a limited time scale and this will lead to huge problems and delays for the police. I understand that most of the larger providers are experiencing financial problems and so may be unable or unwilling to commit to further work. Even if such commitments are made it does not necessarily ensure that the promises given will be honoured. In the longer term I believe many providers will be forced to raise prices and will not be able to offer the full range of services currently delivered by the Forensic Science Service. Many evidence types will be encountered too infrequently to make their provision cost effective for the private companies and so as a country we will eventually lose our ability to investigate crime to the high standards currently available. This will see us lagging behind the rest of the world. From being a world leader in forensic science we will become second rate.

5. What are the alternatives to winding down the Forensic Science Service?

5.1 In my opinion there is a strong case to be made for keeping at least some forensic science provision within the public sector. Even if the Forensic Science Service is made much smaller it could still be tasked with providing those services that are would not be profitable for the private sector, maintaining standards and with doing research and development. Research and development is best achieved through collaboration between those scientists working on actual casework and those doing the research.

6. So far as they are known, are the arrangements for closing down the Forensic Science Service, making staff redundant and selling its assets adequate?

6.1 As far as I can tell there have been no arrangements made for the closing down of the Forensic Science Service. The decision appears to have been taken with no thought as to how this closure was to be achieved and two months on little progress appears to have been made. No thought has been given to attempting to retain for the country the Forensic Science Service's biggest asset which is, of course, its hugely experienced and dedicated staff.

Deborah Weeks

11 February 2011

Written evidence submitted by Peter Grant (FSS 41)

1. **Declaration of interests:** Whilst I am employed by the FSS, this is a personal submission. In relation to my own experiences, I have tried, in brief, to demonstrate how the way the FSS operates is truly world class, innovative and, most importantly, irreplaceable.

2. My role is as a Major and Critical Incident Investigator (MCII) based at the FSS Laboratory in Wetherby. I operate in two main areas:

- (i) Firstly, I assist the Police with designing forensic strategies for major and critical incidents to ensure that best use is made of forensic resources. For example, I recently undertook such a role with the Raoul Moat incidents. This often involves coordinating the work of different scientists at a number of sites and, increasingly, scientists employed by other providers.
- (ii) Secondly, I undertake forensic reviews of cold cases, principally homicides. I have carried out many such reviews with some notable successes such as the identification of John Humble as the infamous Yorkshire Ripper Hoaxer.

3. The strategy designing role is, to my knowledge, unique to the FSS and one that grew out of a specific Police requirement. Indeed, its origins can be traced back to the Byford inquiry into the Yorkshire Ripper investigation where he recommended the use of so-called 'Byford scientists' who could take a more global view of forensic work within major incidents, in particular linked enquiries.

4. This role was pioneered by the FSS as the Specialist Advisor (SA) in the late 1990s and has recently been updated to the MCII. It was written into the Murder Manual as part of recommended Police procedure. It has proved its worth in many cases including the murders of Leanne Tiernan and Sarah Payne and the abduction of Shannon Matthews.

5. To undertake this role requires a certain type of scientist with a forensic knowledge that cuts across all forensic disciplines from DNA to firearms and accelerants to footwear. With the closure of the FSS this role, and the vast pool of experience that these individuals possess, will be lost to the criminal justice system.

6. In terms of homicide cold case reviews, then the FSS is well in advance of other providers to the point that I do not believe that they could take on this role.

7. As background, it is an ACPO requirement that Police Forces reinvestigate undetected homicides at regular intervals; often the only opportunity for further work is in the area of forensic science. If forces fail to reinvestigate these crimes properly then they expose themselves to legal embarrassment with the knock on loss of public confidence.

8. Also, last May, the BBC Freedom of Information team established that there were 1,143 such unsolved killings on Police files.

9. To illustrate the FSS style of work, I should like to use as an example my work with West Yorkshire Police. Together we have set up Operation Pamphlet to reinvestigate 42 of their undetected homicides, an enormous task. However, working in partnership with the force, we have established a robust and transparent process for reviewing the cases and commissioning new scientific work in a phased manner.

10. In brief, the process combines a Police review with a survey of material (both in Force and within the FSS) from which a staged forensic examination strategy is designed. This strategy is regularly reviewed as results become available.

11. To date, some 14 cases have gone at least part way through the process and already some useful results have been obtained (albeit it would be inappropriate for me to detail which cases).

12. The scientific techniques are largely around DNA tests, especially Low Copy Number techniques. The FSS has by far the most experience of such tests. We also use some of the more exotic DNA tests (such as Y-STR profiling) developed by our research department. Some of the LCN tests have been carried out on original fibre tapings taken during the original examination of an item—a technique that was pioneered by the FSS in cases such as the murder of Lesley Molseed.

13. This style of cooperative work is in contrast to that of other suppliers and, I believe, typifies the collaborative approach that the modern FSS takes.

14. My work in Operation Pamphlet would be impossible without two other major FSS advantages which, again, cannot be matched by alternative suppliers.

15. The first is the goldmine of case files, retained material and perishable items that the FSS has built up over decades of forensic work. Often the case files are the only written material remaining as the Police have often disposed of their records in well intentioned but misdirected clear outs. This material must continue to be retained as within it is the evidence to catch many dangerous criminals. To transfer this material to another supplier would be a truly monumental task and would inevitably result in the loss of precious evidence.

16. The second is the experience of staff in the FSS (MCII's in particular) with their historic knowledge of forensic tests and procedures giving the FSS a distinct advantage in deciphering the information within the files (some dating back over 40 years) and enabling them to make the best recommendations for new work. The loss of any these staff would represent a criminal waste of experience and knowledge.

17. It is also important to note that homicide reviews are much more problematic than reviews of other offence types. For starters, there are fewer of them, the scope for the transfer of physical evidence can be limited (e.g. shootings) and, by the nature of the offence, the original investigation is likely to have used up the most promising material.

18. Within Operation Pamphlet, West Yorkshire Police fully accept this and understand that a review will not necessarily lead to a conviction. However, to them it is as important that they carry out their obligation under the ACPO directive so that they can demonstrate that all their undetected homicides have been forensically brought up to date.

19. As stated earlier, the Pamphlet process is robust and transparent, so much so that we (West Yorkshire Police and the FSS) are recommending it as a model for other forces to use when they carry out their homicide reviews. The FSS continues to play a key role in this development. This includes peer reviewing ongoing academic research at PhD level by a serving officer studying the methodology, good practice, efficiency savings and future-proofing of cold case and 'live' homicides.

20. If, as planned, the FSS is closed then I fear that our excellent work in the area of forensic strategies and cold case reviews will be lost for good and that other suppliers will not be able to offer an equivalent alternative.

21. Finally, I would like to add a personal note. For complicated personal reasons, as of 2006, I became the single parent of my five daughters (then aged between 6 and 12). At this time the FSS showed its true colours to me and, at short notice, allowed me to reduce my hours to help juggle the role of MCII and Dad. Without wanting to sound boastful, I have been able to perform well in these two highly demanding roles. I fear that, if I were to try and gain employment with a private forensic supplier, they might view my domestic lack of flexibility as a reason not to take me on. It angers me that the decision to close the FSS will have the hardest

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affect on my daughters who, without wanting to go into details, have suffered enough in their time. It is this sort of family tragedy that lies behind these decisions and will be repeated across the country.

Mr Peter Grant

FSS Major and Critical Incident Investigator (MCII)

11 February 2011

Written evidence submitted by the FSS London Toxicology Team (FSS 42)

This response follows the same order as defined in the Terms of Reference issued in January 2011.

DECLARATION OF INTEREST

This response has been compiled by members of the FSS London Toxicology Team and the responses are therefore mainly specific to this particular work area. It is not a corporate response and the views contained within are those of the submitters only. Representatives can be made available to give oral evidence to the Committee should you so wish.

RESPONSES

1.

1.1. Currently the FSS Toxicology Section performs around 75% of the total work of the forensic toxicology market within England and Wales (Scotland and N. Ireland are supported by other, state-funded, laboratories). This comprises around 3,000 Criminal Toxicology cases, 1,800 Drugs/Driving cases, 7,500 Road Traffic Act (RTA) alcohol cases and 800 Alcohol Technical Defence (ATD) cases.

1.2. FSS Toxicology is the largest team of forensic toxicologists (45) within the UK and possibly the world.

1.3. Within the FSS, toxicology was, until very recently, delivered from Chorley and London laboratories only. The closure of the Chorley laboratory was announced in June 2009 which comprised 40% of total staff involved in toxicology analyses and 40% of the casework, including, specifically, dedicated units which delivered RTA alcohols and Drug/Driving cases.

1.4. Toxicologists at FSS Chorley had a total of 400 years experience between them and of these none are staying within forensic science in the UK; all of those that have found jobs are leaving the profession. London Toxicology has 600 years experience within the team and there is a very real risk that most of this experience will be lost from the profession too, should the FSS be wound-down.

1.5. We know that there is insufficient capacity elsewhere in forensic toxicology for FSS casework to be absorbed. The FSS Toxicology team is larger than all of the other providers put together.

1.6. As with virtually all forensic science disciplines, experience counts for a lot within this work area. We have a good balance of new recruits and experience which works well and would continue to do so for the foreseeable future. It is important that a critical mass is maintained going forward.

1.7. Some casework does not require a large amount of expertise, much of it does. The minimum training time for a casework criminal toxicology court-going Reporting Officer (RO) is one year. Training for analytical staff takes at least six months. Once trained the simplest casework can be undertaken. To deliver all types of casework can require at least 10 years training, mentoring and experience. Consequently it takes a long time to develop a team capable of delivering all types of forensic toxicology casework.

1.8. FSS Toxicology has a massive database of casework and this was used to publish two papers concerning drug facilitated sexual assault (DFSA) in the UK in 2005—6 ie how prevalent is it? The study comprised >1000 cases and was the first to go into the detail concerning deliberate spiking, showing how rare deliberate spiking with drugs is, but also showing the extent of the problem with alcohol in such crimes. This had a wide impact on the investigation of such crimes and education of potential victims. Publication of this paper was encouraged by the Government to help gauge the actual situation in the UK. Since then two papers by smaller suppliers have been published comprising 100 cases or less. We now have data for another 5–6000 cases which could be published given resources.

1.9. FSS Toxicology leads the rest of the UK in setting protocols for delivery of DFSA, RTA alcohols, Drugs/Driving and ATD casework and assisted the NPIA in defining their requirements for toxicology products. We also have an input into investigation of DFSA cases in the USA and assisted them in setting appropriate standards.

1.10. We are currently working on validation of a batch of new methods which, when completed, would have taken FSS Toxicology to the forefront in analytical approach since the processes were aimed precisely at the needs of the police by targeting them to the exact requirements of the National Forensic Procurement Framework (NFPF). This project is about to deliver the first stage into casework. A large amount of money has been invested in this project which would have had enormous benefits for the police in significant reduction

of turnaround times and costs. It is difficult to envisage other providers investing this time and money (we have the equivalent of 6 staff on this project full-time) in such projects.

1.11. The team also possesses the only DART-MS in the country which has been used many times on cases of national security giving virtually instant intelligence information (further details can be supplied privately if required).

1.12. Given the FSS Toxicology team's extensive experience we have been involved in a large number of high profile cases over the years including:

- 1.12.1. Harold Shipman (GP who killed many patients).
- 1.12.2. John Warboys (London Black-cab rapist).
- 1.12.3. Shannon Matthews (child abduction).
- 1.12.4. Kevin Cobb (male nurse who drugged and raped patients in hospital).
- 1.12.5. Selina Hakki (female who drugged rich clients and stole expensive items).
- 1.12.6. Godfrey Onubogu (bogus Defence Expert who was also involved in practising as a doctor without qualifications).

2.

2.1 Toxicology is an expensive discipline to set up and deliver a quality service. Mass spectrometry equipment, which is required to deliver results to the required standard, is expensive and requires expertise. We have had many examples over the years where police have tried to get cheap, quick results by using hospital or other laboratories which are geared-up to do fast-screening thereby enabling rapid treatment of patients. Such analysis is not done to the requirements of the Criminal Justice System where it would come under much closer scrutiny. Standards expected for forensic analysis have been defined. Despite this we have numerous examples where analyses carried out by other laboratories have not been performed to the appropriate standards. A few examples include:

- 2.1.1. A death reported as being due to overdosage of an anti-depressant which, when re-analysed at FSS and given a full interpretation, could have had an entirely innocent explanation.
- 2.1.2. Cocaine metabolite and morphine reported in post-mortem blood sample from a bed-ridden epileptic who died in a nursing home. FSS analysis on remaining blood residue, using accredited methods, was negative.
- 2.1.3. A reported fatal level of carbon monoxide in a putrid blood sample analysed spectrophotometrically when this method should never be used on such samples. The same laboratory then failed to detect an overdose level of cocaine and metabolite in the same sample.
- 2.1.4. A reported significant blood alcohol level in a very young child which was actually negative when analysed by an accredited method.
- 2.1.5. A laboratory which missed an overdose level of zopiclone in a mixed alcohol/drug fatality.
- 2.1.6. A recent report containing the phrase "Note that the laboratory did not find a recognised benzodiazepine in the sample (by HPLC or GCMS) but found a significant concentration of a substance similar to the Rohypnol metabolite; 7-aminoflunitrazepam, which may be a non-proprietary illicit analogue similar to Rohypnol which may have been obtained from the Internet." Police enquired as to whether they should submit the sample for forensic analysis. They did submit it and no such compound was found. The wording on the report beggars belief.

2.2. The likelihood is that police will in-source the cheap, easy forensic science and expect the private sector to take on the expensive, unprofitable examinations. Toxicology, as mentioned earlier, is an expensive discipline to set up properly. It is therefore unlikely that many, if any, forces, would be able to do anything more than perhaps carry out simple screening. This in itself is dangerous as many screening techniques are designed to be used in a workplace testing situation and not a forensic one. The much lower levels of drugs/metabolites which can be encountered in a forensic context, where samples may be taken days after an incident, would not be detected by many screening techniques. Many dip-stick tests operate in a similar manner and we have become aware that some have been used by police to screen samples before deciding whether to submit for toxicology analysis.

2.3. There have also been very many cases brought to our notice where detailed interpretation of results has not been considered. This is when experience matters most. Some suppliers offer little more than an analytical certificate detailing the results with little, or no, interpretation of those results. This is a dangerous practice and one wonders how these certificates are viewed by CPS, and what use they make of them.

2.4. Our Reporting Officers undergo a thorough training process at the end of which they participate in a certified expert witness course which is externally assessed. The Home Office recognises this course. Only one other forensic toxicology provider operates an expert witness course.

2.5. When the Council for the Registration of Forensic Practitioners existed the Lead Assessor, and two out of three of the original Assessors, came from within FSS Toxicology and all FSS Toxicology ROs were registered. Very few from elsewhere were registered.

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2.6. The scope of accreditation of forensic suppliers for analytical work is included on the United Kingdom Accreditation Service's (UKAS) website and we are the most accredited laboratory for forensic toxicology analyses. Only one other supplier (LGC) has a significant amount of such analytical work accredited. Acquiring accreditation requires much work and is expensive to achieve. A quality system comes at a price. Ever-increasingly it appears that police forces are unwilling to pay what's needed for quality results; it can easily take a year or more to attain even limited accreditation.

2.7. We have many cases where Defence Experts are appointed to investigate our findings and very rarely are any challenged.

2.8. We routinely undertake analysis of what might be described as "difficult" samples eg samples from bodies which have been dead for many weeks/months. Many laboratories are designed to deal with clinical (and therefore fresh, clean) samples and simply either cannot deal with these complex samples or attempt to use other routine methods with, sometimes, unfortunate consequences for accuracy of the results.

2.9. One big benefit is that we are part of a laboratory which offers all forensic analyses and as such toxicologists can perform joint examinations with scientists from other disciplines; this would not be possible with most other providers. Failure to do so can compromise forensic evidence (eg fingerprint or DNA examinations on shared items such as glasses/bottles from DFSA cases).

2.10. We get positive feedback from customers regarding our quality of results and interpretation and offer an urgent service which many other providers do not (eg weekend analysis when required). We have picked up such work when other providers would not offer it.

2.11. We take on work which isn't profitable; private companies would almost certainly either not do this or would charge a much higher price to customers.

2.12 Several of us were previously employed at the Metropolitan Police Forensic Science Laboratory. In 1995 the then Home Secretary, Michael Howard, decided that we should merge with the national FSS because of fears concerning impartiality. Here we are, 16 years later, with such concerns apparently being cast to the wind. Many police forces are now setting up forensic services to a varying extent. Most of this appears to be unregulated (only one force has an accredited laboratory at present). FSS takes on work on behalf of the Defence.

2.13 In some Drug/Driving cases all of the evidence is provided to FSS Toxicology, including police statements, doctor's notes etc., to review the whole case. Once all of the evidence is fully considered we have recommended that the Crown Prosecution Service (CPS) does not proceed with a prosecution, due to inadequacies in certain aspects in some instances, and cases have consequently been dropped.

3.

3.1. FSS Toxicology is now centralised following imminent closure of the FSS Chorley laboratory. We have therefore achieved efficiencies with cost-effective batching of analyses. We are unable to comment further.

4.

4.1. The private sector would need to make money. As it stands there is very little profit in the forensic marketplace. Private providers are not obliged to deliver forensic science.

4.2. Eurofins withdrew from forensic toxicology in the UK in 2010 as there was no profit to be made.

4.3. Other suppliers cannot anywhere near cope with a large increase in case load as they stand. None has enough equipment or personnel either. FSS Toxicology, as mentioned earlier, has around 75% of the overall forensic toxicology market. Apart from LGC most of the other suppliers concentrate on the Coroners' Toxicology market, which can be significantly different in analytical requirements and, especially, interpretation of results.

4.4. In order to deliver the required increase in forensic toxicology work suppliers would need to invest in additional laboratory space and equipment as well as a massive increase in recruitment of staff.

4.5. Only one other provider (LGC) currently offers RTA alcohol and Drug/Driving analyses to the standards and requirements of the English and Welsh legal system. If FSS ceases to exist they will have a monopoly. An increase in prices would be inevitable. We do not believe this provider has the capacity to take on a significant amount of FSS work (currently both RTA alcohols and Drugs/Driving is split approximately 50:50 between FSS and LGC). [Update 11 February—NPIA have just asked LGC to take on FSS RTA alcohols casework and there is therefore now a monopoly].

4.6. Although FSS subcontracts the analytical part of hair analysis we offer full interpretation. There are very few forensic providers who offer interpretation of hair results in the UK. Recently, in a child custody case, two providers of hair analysis were openly criticised in court, and in the press, for significant failings.

4.7. The FSS Toxicology Team can deliver statements concerning rates of drug use in cases where a defendant is arguing personal use but has been charged with possession with intent to supply. This is partly because we have a close working relationship with our Drug Teams who publish drug seizure data. This is

ending shortly given the FSS closure announcement. This data was also used widely within the country including by the Government/Advisory Council for the Misuse of Drugs.

4.8. The Team also undertakes many very complex poisoning cases including “consumer terrorism” cases which often require bespoke painstaking analysis. We have very many years experience in tackling such cases.

4.9. Succession planning within the FSS is excellent and we have a good balance of experience, for casework and mentoring, and younger, enthusiastic staff to guarantee continuation. This mix works well. As mentioned earlier, there is a lot of training required to deliver even the simplest casework. Analysis is not simply a “push-button out come the results” process as often depicted on TV. It is far more complicated than that and a significant degree of knowledge and understanding of the discipline is required to produce meaningful results.

4.10. A few years ago it took a large sum of money for a new provider of toxicology services to set up a laboratory from scratch. This provider currently has three full-time ROs delivering casework; the FSS has 21, to give some perspective.

4.11. The FSS Toxicology Team also undertakes work from abroad on behalf of other police forces eg Jamaica (Bob Woolmer case), Japan (Lucy Blackman case) and has worked with Abu Dhabi in assisting them attain international accreditation successfully.

5.

5.1. In excess of £50 million was invested two years ago by the Home Office to allow the FSS to transform into a slicker organisation. The plan to deliver these benefits is exactly on schedule. If the decision to close the FSS is a financial one then time should be given to allow the full benefits to be realised. If not, then the money has been wasted. If the decision was to be reviewed in a year this would probably give sufficient time for the FSS to become a profit-making organisation again. The costs of winding-down the FSS are not known at present but are likely to be significant. There will also likely be significant costs in maintaining some of the legacy work of the FSS eg databases, cold-case review data etc. Given this it would probably make financial sense too for a year’s grace to be given.

5.2. The forensic marketplace is in turmoil with police funding being reduced and forces consequently cutting back on their forensic submissions generally (although we have not noticed any significant decline yet in toxicology). If police forces in-source their forensic work they don’t see this as a cost. A review of actual total police spending on forensic work, including costs associated with in-sourcing, could prove useful. It is highly likely that English and Welsh police forces in the future will actually be spending more overall on their combined forensic science requirements by in-sourcing rather than by sending out to forensic suppliers. As previously mentioned, impartiality is not an issue if work is delivered outside of police forces.

5.3. Without exception, the rest of the world sees forensic science as a publicly-funded service not to be carried out in the private sector. Consideration should be given to bringing it all back within the public sector. Attempts to establish a viable forensic market have seemingly failed. This is exactly what happened in New Zealand where the work is now publicly funded once more.

6.

6.1. When the situation was announced there were no plans on how to close down the FSS. Currently there still seems to be very few plans. At this moment there are still no details on staff redundancies or selling assets. There is a very high risk of the loss of a large amount of knowledge and expertise from forensic science.

M. Scot-Ham
Principal Scientist

T J Ayres
Team Leader

C A M Horwood
Team leader

On behalf of London Toxicology Team

February 2011

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Written evidence submitted by Mrs Florence Heap (FSS 43)

1. In introduction I should like to say that I consider the closure of the Forensic Science Service to be a deliberate act of treachery and a complete betrayal of the law abiding citizens of the nation.

2. I feel impelled to declare my interest. My granddaughter is employed by the Forensic Science Service in London as a Senior Forensic Scientist. Proudly, she has told me that she “specialises in the examination of firearms, ammunition and related items and in the interpretation of firearms related damage and gunshot wounds”. She works under her maiden name of Abigail Hannam and has worked in this field since 2001.

3. I am told that I am allowed to address you with 3000 words, but I will not take up so much of your time. I am 89 years old and plain common sense says that all forensic examinations should and must take place under one roof. Plain common sense says that this must necessarily reduce the risk of contamination of the specimen. Plain common sense says that this can only be carried out by the Forensic Science Service. A service which is not touting for business, which is not being sold on the market in multi million pound deals and take over bids and which will not be selling access to their databases for profit and which, hopefully will not be losing their databases from lost computers etc. It is plain common sense. Their work is all under one roof.

4. My husband was a police officer for 29 years. So I have lived with a desire for the villains to be brought to court all my life. The excitement of him going to Ireland to bring back a prisoner was palpable in our house. I was horrified to read in my newspaper recently that an undercover police officer had his evidence suppressed because it was not what the prosecution wanted to hear. Yet again this week, I think it was, I read about the allegations made by some very eminent pathologists that The Met Police has tried to discredit them as expert witnesses. I question, therefore, the sheer common sense of bringing experts and police under the same roof. How can more work be given to the in-house Met Police forensic science teams when the Met Police Force itself is being brought already into disrepute? My opinion is that police and expert witnesses need keeping separate. This is sheer common sense. If the police are backed up by a police controlled forensic science service there will not be justice, and my husband would think the same. He knew what went on at tea breaks and in patrol cars. I always believed that criminals were being caught and sentenced after a fair trial with all the evidence available. I do not think that this will happen if the Forensic Science Service is closed down.

5. I have seen the news-breaking story today of the Forensic Science Service backing out of blood alcohol tests. **At first I rejoiced that this would be teaching the coalition government a thing or too, but on second thoughts I came to the more realistic conclusion that only the drunken, drug crazed louts will benefit.** Some well paid brilliantly spoken barrister will soon prove that the samples have been stored for too long or incorrectly for the results to be trust worthy. More drunk and drug crazed louts out and about on the streets again and all because the Forensic Science Service was not there and another company had to be found. Found where? With what authority and with what control and with what esteem?

6. In conclusion can I ask what you young people are thinking about? **Forensic analysis needs paying for.** I shall, no doubt for a time at least, be helping to pay the bill. **Why is it saving any money paying for the service via police forces or private firms? It is the same bill it is just that it is not hidden in other accounts, it still needs paying.** Surely we should stick with what we have got, what we know is good. This in my opinion is the experts at the Forensic Science Service. Experts who have support from all over the world and who are respected for their attention to detail, their precision, their painstaking care and, perhaps most of all, for their impartiality. You should seek to leave them alone.

Mrs Florence Heap

11 February 2011

Written evidence submitted by S J Griffith (FSS 44)

1. I make this submission as a private individual. I am, however, a member of the Fire Investigation Unit based at the London Laboratory of the Forensic Science Service Ltd.

2. The Unit is staffed by forensic scientists who are dedicated full-time to fire investigation and, as such, is unique in the public sector. The work is highly specialised and the Unit's knowledge, research and experience accumulated over the last thirty years is unparalleled.

3. I have very grave concerns about the proposed winding down of the Forensic Science Service, particularly the serious impact it could have on niche disciplines, including fire investigation. The expertise within such disciplines has become increasingly expensive to maintain as in-sourcing and alternative no-cost provision has been sought by the police. I am concerned that the lack of profitability associated with offering these services will lead to a reduction in the quality.

4. I feel it appropriate to restrict my comments to my discipline as I have had first hand experience of the impact of an unstable market on this specialism. That said, I can see no reason why other niche forensic disciplines within the FSS might not have been affected similarly.

5. Over at least the last five years the routine demand for fire investigation has been in steady decline, including the investigation of fatal incidents. This is largely the result of constabularies using Fire Service

investigators, who are free to police and offer services ranging from investigation of the scene and examination of physical evidence up to the provision of witness testimony within criminal and Coroner's courts. No private forensic provider can compete effectively against this position, particularly at a time when it is envisaged that police budgets will be reduced year-on-year.

6. The Fire Service are neither regulated nor accredited in the same way as other forensic providers are required to be. A recent national survey presented to the Chief Fire Officers' Association showed that 70% of Brigade investigators have other roles and responsibilities in addition to the investigation of fires. This seems incompatible with the provision of robust, high quality forensic work.

7. My experience is that the police still call the scientists from my Unit to deal with high profile, technically difficult incidents (including anti-terrorist work), presumably in recognition of the quality of expertise we provide on such occasions. Should the collective breadth and scope of knowledge and experience contained within my Unit be lost with the closure, it is difficult to see where equivalent, proven expertise will be found in the future. Additionally I cannot see how the forensic fire investigators of the future will either gain or maintain sufficient experience to ensure that they carry out work competently, as fire investigation now makes up only a very small proportion of the work of commercial forensic science providers.

8. Given the stated reduction in police spend and desire for full commercialisation of the forensic market, it is difficult to see any future, sustainable or otherwise, for specialised forensic disciplines. I would ask the Committee to investigate thoroughly the implications for the CJS if specialist disciplines are wholly lost through the closure of the FSS.

S J Griffith

8 February 2011

Written evidence submitted by Key Forensic Services Ltd (FSS 45)

1. What will be the impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?

1.1 The private sector has the capacity and skill base to take on the UK's current (shrinking) casework demand for forensic science, a process already underway as FSS clients have been steadily transferring to private suppliers offering better value for money (VfM) in the current Police and other law enforcement agency tendering rounds. Closing the FSS will not cause a lasting impact on the delivery of client casework after the implementation phase of closing the FSS currently in progress is completed.

1.2 From a technological development perspective, it is difficult to say what the long-term impact will be. Historically, the FSS has invested circa 5–10% turnover p.a. into R&D, supporting a department of, at its peak 100, scientists. As a monopoly the FSS was able to recover this cost for R&D and generate profits from its, primarily public sector, captive clients.

1.3 As competition grew and customers, mainly the Police, saw opportunities to obtain the same service more cost effectively they moved work away from the FSS. Initially this "cherry-picking" was limited to DNA testing and through significant public sector funded investment in new technology the FSS was able to compete strongly in this area and reduce its own prices significantly to reduce the impact of this.

1.4 However, actively encouraged and supported to do so by a dissatisfied client base, over time competitors expanded into other areas and the FSS began to lose more work. The profits generated from DNA testing began to reduce as competition grew and prices fell. This exposed the extent of the cross-subsidisation within the FSS and highlighted that many areas outside of DNA testing (at one point generating 50–60% of FSS turnover) were not viable in their own right.

1.5 The move of the FSS to a wholly owned Government Company triggered a series of events; one being the need to establish commercial arrangements between the FSS & its customers. In order to do this a programme of national procurement was announced. A 14 force consortium consisting of NW/SW/Wales forces lead the way and tendered for all their forensic services (FSS had 90%+ market share in some forensic disciplines). Compared to its private sector competitors the FSS is grossly inefficient and its bid prices were uncompetitive. In this tender the FSS lost between 50% and 90% of the participating Police forces' casework from late 2007.

1.6 This was the beginning of the end. Since then in excess of £50m of additional government funding has been relentlessly pumped in to the FSS, which has not been made available to its private sector competitors and if not provided as "equity" but as the government aid it really is, would have been subject to "State Aid" challenges for distorting the market. Despite this persistent government support it is our understanding that the FSS continue to lose £2 million per month and now require further substantial government aid—another £50 million we believe—to support its current inefficient and unsustainable practices, for a client base which is universally rejecting them. With no plausible business plan from the FSS and continuing to lose ~£2 million per month the decision to wind-up the FSS was announced.

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1.7 During this period the FSS had started to reduce the size and number of R&D projects (as a cost cutting measure). Whilst we do not know the 09/10 R&D spend we believe it to be substantially less than in previous years, also in part due to the significant technology advances in other fields not directly related to forensic science, such as biotechnology, robotics, miniaturisation, electronic engineering. The FSS R&D department consequently increased the number of industry and academic partnerships in the realisation that a lot of the future developments, e.g. rapid DNA profiling at the scene, would come from these technology advances and not from the traditional R&D areas that represented the core skills within the FSS business. Many of these projects will continue within the partner organisations if the business case for the product or service has been properly researched.

1.8 On balance, we do not consider a lack of on-going R&D to be a threat to the future provision of forensic services, there is the skill and know-how in the UK and if it makes commercial sense someone will develop it. Perhaps, finally, the customer “pull” will outweigh the developer (FSS) “push” with regard to development projects, a criticism always levelled at the FSS for doing things its customer later claimed they didn’t need or want. We anticipate that whilst total R&D spend may well be reduced whatever resource is committed will be properly evaluated beforehand and focused on practical applications welcomed by a client base whose subsequent income streams will fund further developments. If not, one would have to question the need for further investment when there is no demand for the outcomes.

2. What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

2.1 These are two separate issues.

2.2 There is often an inferred suggestion private forensic service providers are not as impartial as the FSS—a public funded service provider, the private service providers made vulnerable by the requirement to retain clients and generate a profit and thus being subject to coercion by their clients. The reality is that the FSS has been operating as a self financing organisation, generating “fees” for its casework from its clients, on the same basis and under the same financial pressures as the private service providers. To this extent, “risk” of impartiality is thus no greater for private service providers than it was for the FSS. In practice, no private service provider would risk its reputation and, therefore, its future viability for a short term gain that would be lost many times over should such an occurrence ever become public. Similarly, forensic evidence is ultimately provided by forensic experts acting as expert witnesses, whose own careers and integrity rest on what they offer as their opinion. Many of private sector forensic scientists have been carefully selected as the best in their field, and as such display no less integrity than their public sector counterparts, who will also be subject to coercion for any number of reasons, not least to maintain their department’s budget. In our opinion there is a low risk to impartiality or quality if forensic science continues to be delivered by high quality, accredited unbiased, impartial and independent forensic science providers.

2.3 The real risk is with police in-sourcing, ie carrying out forensic science activities for themselves in uncontrolled, non-accredited laboratories, which presents a very real risk to the quality of forensic analysis produced.

2.4 Assuming in-sourcing continues unabated and without considering the commercial implications for the private sector:

2.4.1 Quality

- **Moderate risk** based on a lack of consistent implementation of Forensic Science Regulator’s Standards. The latest information suggests that police laboratories will not have to implement the new standard until 2015, yet private companies have to have them in place *before* they can start to do the work. This is definitive evidence of twin standards being applied, where the private forensic service provider has incurred the cost of establishing and maintaining services to a high minimum standard, which is independently audited, and an in-house Police service with no minimum standard or comparable controls
- Within the private sector standards are generally high and the perceived risk is regarding the police based activity. This view is supported by evidence in a letter regarding quality concerns from the Association of Forensic Service Providers (AFSP) to the Forensic Science Regulator, Andrew Rennison.

2.2.1 Impartiality

- **Significant risk** based on natural prosecution bias, cultural and environmental factors influencing police activity.
- Our own view above is mirrored by Robert McFarland in his recent article in *The Guardian* <http://www.guardianpublic.co.uk/better-impartiality-needed-in-forensic-services> and question whether such important issues should be unilaterally determined by a vested party, in this case the police forces determined to in-source.
 “...There are however downsides. One reason for the drop in demand is that for relatively minor offences, such as low-level burglary or car break-ins, the prevailing police view seems to be that the results from forensic examination do not justify the cost. More importantly, one

has to question whether it is right that the police are the sole arbiters of what scene of crime samples are sent for analysis and what discarded.

Defence lawyers can and do commission forensic work, but in practice the defence usually has little option but to rely on the impartiality of the forensic practitioner used by the prosecution.

The most worrying possibility, however, is that police forensic experts could appear in court as expert witnesses. There is a precedent; the police have traditionally been acceptable expert witnesses for fingerprint identification, the most potent forensic evidence of all, a practice which judges should have stamped out years ago. The criminal procedure rules, laid down following the review by Lord Justice Auld in 2001, specify that the expert's duty to the court overrides "any obligation to the person...by whom he is paid".

However it is stretching credulity that this could remain meaningful if the expert owes his career to a police service which, in an adversarial court system, is intent on securing a conviction.

In theory, the Forensic Science Regulator provides some protection from abuse but disconcertingly, after nearly 10 years, a code of practice for forensic practitioners is still only in draft form.

In the last analysis, who appears before the court as an expert witness is entirely a matter for the judges. One can only trust that they will be eternally vigilant.

The issue of public concern then is not whether the FSS exists or not, but how to ensure the quality, integrity and, above all, impartiality of the work done by forensic experts right through from their attendance at the crime scene to their testimony in court."

3. What is the financial position of the Forensic Science Service?

3.1 For a detailed overview of the financial position of the FSS refer to their annual report: <http://www.forensic.gov.uk/userfiles/FSS%20Annual%20Report%202009-10.pdf>

3.2 Our own view is that the FSS is grossly inefficient and unsustainable without on-going substantial government cash injections and incapable of establishing itself as a competitive alternative in a truly open market. As a direct consequence, the FSS requires very substantial government aid to sustain itself, in the meantime undermining its more efficient private sector competitors and utterly distorting the market. The real losers of this situation are the public, who are ultimately funding the FSS's public sector clients and the continual stream of central government aid. As discussed earlier, if the substantial government aid received by the FSS were provided as government aid rather than as a government shareholder equity investment, the FSS would be under-going state aid investigations for distorting the market.

4. What is the state of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the Forensic Science Service and the volume and nature of the forensic work carried out by police forces?

4.1 The private sector has no issues of capacity, range of services or quality. Future uncertainty is the biggest threat in the on-going provision of services—and this would remain equally true for the FSS:

- (a) Reduction of Police budgets.
- (b) Crime levels reducing.
- (c) External spend on forensic services is reducing as a result of 1 & 2 but also in-sourcing by police.

4.2 The single largest threat to long term sustainability of commercial/private sector Forensic Service Providers (or indeed the FSS) is the uncoordinated, opaque and questionable (in value for money terms) in-sourcing of forensic science by the police forces of England and Wales.

4.3 There is no strategic overview or long term objective for the forensic market place and no certainty of market value over the next two to five years. The above circumstances undermine private enterprise, which will be loathe to invest in a market subject to uncertainty and potential rapid shrinkage from police in-sourcing. Severe and rapid shrinkage as police forces take work in-house could well make the market unviable, a minimum amount of activity being required to support the infrastructure needed to offer the broad range of services necessary for the most serious crimes.

5. So far as they are known, are the arrangements for closing down the Forensic Science Service, making staff redundant and selling its assets adequate?

5.1 Too little is known at this stage. Uncertainty over TUPE is a significant factor that will impact on many areas. No asset list has been provided at this stage or the terms on which assets would be transferred to new owners.

DECLARATION OF INTEREST by Key Forensic Services Ltd. Key Forensic Services Ltd is private UK owned company, offering a broad range of forensic services primarily to UK law enforcement agencies, and established as a direct competitor to the FSS. As such, Key Forensic Services is anticipating a more rapid uptake of FSS

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clients, which the company would otherwise have anticipated over a more protracted period via the scheduled Police procurement program.

Paul Hackett
Director of Operations
Key Forensic Services Ltd.

11 February 2011

Written evidence submitted by Forensic Science Northern Ireland (FSNI) (FSS 46)

As the Chief Executive of FSNI, the primary Forensic Science provider to the Northern Ireland Criminal Justice System, I welcome the Committee's involvement in this very important issue.

1. DECLARATION OF INTERESTS

1.1 My response to the consultation is given on behalf of the Agency itself as an active provider in the forensic science arena, which works closely with the FSS and other providers. The views in this response do not necessarily fully reflect the views of our sponsor department, the devolved administration's Department of Justice (DOJ), who may have their own perspective which they may wish to share with you.

1.2 As an Executive Agency of the DOJ, operating under a cost-recovery funding model, we are impacted to some degree (operationally rather than commercially) by developments in the Forensic Science marketplace in England & Wales. FSNI are the sole indigenous supplier of forensic science services to the CJS in NI, although we do occasionally provide consultancy to overseas countries. We actively collaborate on issues of quality, forensic science development and Health & Safety with many of the major providers (state and commercial) within these islands, both bilaterally and under the auspices of the Association of Forensic Science Providers (AFSP). There is also considerable collaboration across Europe, under the auspices of the European Network of Forensic Science Institutes, between over 55 forensic science organisations (almost entirely public sector organisations)—FSS and FSNI amongst them. There is heavy activity between all these organisations within the ENFSI specialist working groups covering the many diverse forensic specialisms.

1.3 FSNI, from time to time, also procure services from FSS and other forensic suppliers in England and Wales in order to support our work, for reasons either of specialist capability in a specific forensic discipline or of lack of capacity at times of peak demand.

1.4 In the light of development in the market in England & Wales, FSNI's status as a public body was thoroughly reviewed by the then NIO and subsequently the DOJ post devolution. It has been decided that the NI CJS is best served by retaining FSNI as an Executive Agency of the DOJ offering a local, responsive, integrated and comprehensive forensic science service.

2. FSNI'S GENERAL POSITION ON THE FORENSIC MARKETPLACE

2.1 Given the above, FSNI is affected by Home Office Policy in relation to forensic science on a number of fronts, including the influence and role of ACPO in dictating operational forensic policy directly and via individual police forces. As the PSNI (our primary police customer) are members of ACPO, to whom the HO have given more or less free rein on forensic strategy, we have had to realign our entire product range to the ACPO definitions and thus mirror the procurement approach adopted in E&W in order to demonstrate value for money to our paying customer.

2.2 Whilst such an arrangement would seem eminently sensible in the case of a straightforward supplier-customer relationship, the reality is that there are two very different customers for any forensic science provider; the police, who want fast, low cost support to their investigation and the Courts, who are inherently cost-blind and want very robust, independent and objective expert witness in support of justice, whether that means conviction or acquittal for the accused.

2.3 We consider the marketisation approach in E&W to date to have created a real risk (already realised, as outlined in a recent letter from AFSP to the Minister) of the commoditisation of forensic services in the service of Policing rather than Policing & Justice. This approach has also encouraged the shrinking of the contestable market by the policy of in-housing of more and more forensic services by the police forces themselves. At the same time, ACPO has resisted the adoption of the quality standards (specifically ISO 17025:2005) which are the cornerstone of good forensic science and to which all the external providers (FSS included) operate.

2.4 A further negative effect of commoditisation has been the "fragmentation" of casework as different exhibits from the same crime are dispersed to multiple providers based on the apparent cost of a particular piece of work or product. This greatly impedes the overall forensic interpretation and planning, introduces additional points of failure in continuity and contamination control and compromises the ability to optimise the recovery of multiple evidence types from the same exhibit (known as forensic integration). An example of this is a mobile phone first sent to a small provider whose expertise is in data recovery from the phone memory will have any potential for DNA, fingerprint and fibre evidence destroyed because the phone specialist provider

does not have the facilities or expertise to examine and recover multiple evidence types in a contamination controlled environment.

2.5 Only a few forensic providers (FSS and FSNI amongst them) have the ability to integrate forensic examinations across a wide range of specialisms. Breaking up FSS will likely damage or destroy this rare capability which is so important to the investigation of serious and complex cases including those related to national security.

2.6 The result has been an increasing risk of quality failures (eg emanating from police pre-screening evidence recovery units) with serious potential for the miscarriage of justice and the overall loss of UK's capability and capacity in forensic science.

2.7 FSS, as the acknowledged world leader in Forensic Science, has stood as a guardian in many ways of the essential independence of forensic science and its role, not just in supporting policing but equally importantly in supporting the CPS and the Courts. AFSP members have noted with concern the lack of active involvement of the Ministry of Justice in ensuring the objectivity and quality of forensic science for the Courts as a counterbalance to the HO's focus on Policing.

2.8 FSNI were ironically in the process of agreeing a very positive programme of R&D collaboration with FSS when we read with dismay (and without any prior warning to either FSNI or DOJ), the Home Office announcement of the plans to close FSS.

3. FSNI RESPONSE TO THE CONSULTATION QUESTIONS

You have requested responses based on the terms of reference for the Committee and I will therefore address each point in turn.

3.1 What will be the impact of the closure of FSS on forensic science and on the future development of forensic science in the UK?

- (a) The FSS have been in the lead internationally in the development of new Forensic Science techniques over the last number of years. This has been greatly facilitated by funding from the Home Office (HO), especially for example in DNA. The UK's international reputation in this field will be seriously weakened by the loss of FSS who are major players in ENFSI, an organisation which is loath to permit membership of commercial providers because of its strong tradition of free and open sharing of technology and best practice in forensic science for the public good rather than for profit.
- (b) It is with some re-assurance that I note that the House of Commons announced a forthcoming review of Research and Development in Forensic Science and hope that this will provide Ministers with advice on the current and likely future status of forensic science research and development in the UK. It is imperative that the same technology is available to all the Courts in each of the UK jurisdictions and not restricted to individual suppliers through patent protection or other intellectual property rights issues.
- (c) I also note with concern attempts by the NPfA over the last year to control Forensic Science R&D centrally. R&D in forensic science is essentially the application of proven science from other areas into the forensic arena and therefore is best driven by the practitioners in response to their customers' needs. Whilst coordination is essential, this must not be centralised control and vetting as currently envisaged. Neither ACPO nor NPfA are well placed to lead forensic R&D strategy but should instead restrict themselves to defining their future needs, rather than the solutions to them.
- (d) The loss of FSS weakens the collaboration between the various providers on the vital issue of Quality, as they are the most significant provider of blind trials and collaborative exercises which we all regularly conduct between each other in AFSP (and ENFSI). These are essential and complex aspects of overall quality management in this field.
- (e) The break-up of the FSS, as stated earlier greatly risks the loss of one of the very few "integrating" forensic providers, capable of optimising the sequential or parallel recovery of multiple evidence types from individual exhibits under controlled environments and within a bespoke case forensic strategy. The impact of this loss would principally become evident in serious, complex crimes including those involving national security, rape, murder, etc.

3.2 What will be the implications of the closure on the quality and impartiality of forensic evidence used in the Criminal Justice System?

- (a) The impact largely depends on the status of Quality Accreditation which those organisations which absorb the work of the FSS have. If the work is taken in-house by police forces (an existing and accelerating trend) then there will, almost certainly, be a less rigorous approach to Quality accreditation. Indeed ACPO have been strongly resisting attempts by the Forensic Science Regulator to move rapidly to ISO 17025:2005 accreditation and seem content for some police forces to run some forensic services (including pre-screening of exhibits) out of unaccredited facilities or those accredited to the much less exacting ISO 9000 standard. Paradoxically the police themselves insist in their external procurement on ISO17025:2005 for all forensic providers. This is compounded by significant

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differences compared to providers in how the police calculate their own costs and assign fixed overheads (and warranted officers' salaries). The impact this has on true cost comparisons, thus leads to an inequality of service quality which will inevitably increase the risk of prosecution failures or miscarriages of justice. (The CPS view of this should be sought, eg from Roger Coe-Salazar).

- (b) The commercial supplier-customer perspective which the current market approach drives creates a significant risk where in the opinion of the forensic science provider some further work on exhibits is needed and/or further exhibits are considered necessary to arrive at a balanced and comprehensive evaluation of the overall evidence. It has been reported to AFSP that there have been several instances where the police, for reasons of cost have been reluctant to agree to this and that they cite as a reason their suspicions that the providers are only asking for more work in order to generate more profits. (In my experience this is not the motivation of the providers, which is rather to ensure their scientific objectivity and quality of expert witness.)
- (c) Any existing commercial provider taking on former FSS capacity will most likely, only be interested in those areas which are profitable in the longer term. The design of the procurement strategy to date, as conducted by ACPO, militates strongly against long term investment by providers and therefore the serious risk emerges of reducing commercial provision in a highly imbalanced and unattractive market and its displacement to in-house police force provision under lower quality standards and an essentially non-scientific organisational ethos.
- (d) It cannot be in the interests of civil liberties for police forces to be the main providers of their own forensic science services, given the absolute centrality within forensic science of objectivity, operational independence, scientific rigour and continuous improvement.
- (e) I would refer the Committee to the 2009 US National Academy of Science's report on Forensic science in that country and the dangers it highlights, inter alia, of direct police control of forensic science. I would also refer the Committee to recent EU directives in relation to the Prüm Treaty calling for interoperable quality standards across Europe to allow for the interchange of scientific forensic data, including DNA and fingerprints and to the United Nations resolution calling for the operational autonomy of forensic science provision in all member states.
- (f) The public, and to a significant degree, it seems, some senior police officers, view forensic science as principally about tests conducted by laboratory scientists in order to arrive at certainty of opinion in support of an investigation. This implies is a misunderstanding of the totality of the subject. The tests and examinations firstly need to be chosen and designed (especially in serious or complex cases) with a great deal of contextual understanding and the results interpreted and evaluated with scientific and objective rigour and contextualisation by highly trained staff competent within the specialisms concerned in order to advise the Court. To do otherwise can run a very significant risk of misdirecting a jury, especially given the erroneous perception that lay people have of science as bringing certainty. FSS have been foremost in developing and maintaining such a rigorous approach to Expert Witness. If they are indeed to disappear, their successor providers must all adhere to the same rigour and standards.

3.3 What is the financial position of the FSS?

- (a) I cannot comment on the financial position of FSS, except to say that the Government announcement of its impending closure cited it as losing £2 million per month. This loss is in essence meaningless, as the decision to make FSS a profit centre (in contrast to other Criminal Justice Services, such as the Police, the CCRC, the CPS, Prisons, Probation Services, etc. which are not seen as profit centres) was an arbitrary one and is the sole reason why it could ever be said to be making a "loss". The funding for forensic science is essentially circular money granted to the police in order for them to procure services. This has led to the inappropriate perception by policy makers and the police themselves that FSS is simply a provider to its customer, the police, rather than a key player across the CJS. (This perception is widespread and applies to providers other than FSS).

3.4 What is the state of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the FSS and the volume and nature of the forensic work carried out by the police forces?

The attractiveness of the "market" is not high for most commercial providers, due to a number of factors:

- (a) The market is small at ca £250 million pa and is being rapidly eroded in terms of both price and demand by the police strategy of in-housing.
- (b) The wider international commercial market is limited, as most countries view forensic science as a public service and not a commercial one. Ironically FSS was very well placed indeed to sell its services on behalf of the UK to foreign governments in support of their own developments in democracy, the rule of law and counter-terrorism.
- (c) The ACPO-led procurement approach to date has been poorly conceived and is driving commoditisation and price reduction and reducing the value added services, thus suppressing providers' profit margins. Several are said to be considering exiting the market.
- (d) The contracts awarded by the police procurers are regionally "all or nothing" and run for typically three years. Given that it takes three years to build, equip, recruit and train specialist staff and have

quality accredited a new forensic facility, this means that the incentive for a commercial provider to invest in new facilities (or indeed R&D) is very limited, as the regional contract could be lost at the next bidding round just as the new facility has come on-stream.

3.5 What are the alternatives to winding—down the FSS?

A retreat from the commercial model for the market is difficult, given the current state of play, but should none-the-less be considered. A review of the FSS to assess which sections are viable business areas and which are of central importance to UK as a whole should be conducted. It is likely that any prospective buyer will bid for the most attractive assets within the FSS. This means that other non-profit making services will be redundant but these may be the very ones that are essential for dealing with major complex cases or with national security. These could be retained within a core FSS facility, which also acts as the national FS coordinator, rather than the NPIA, for R&D. They could also take back in-house the custodianship of the national DNA database, as the NPIA is dissolved.

3.6 So far as they are known, are the arrangements for closing down the FSS making staff redundant and selling its assets adequate?

- (a) Little is known within FSNI about the arrangements for disposal of the FSS assets or in relation to dealing with staff. All I can say is that morale is very poor in the FSS and there is a feeling across the entire forensic community that government has, over the last five years or so, profoundly failed to understand the nature and purpose of forensic science and has abdicated most of its responsibilities for it to the police and ACPO, whose perspective is (quite understandably) not a scientific one or even a justice-oriented one, but a policing one.
- (b) Forensic science is increasingly involved in the complex analysis and interpretation of extremely small amounts of material (10^{-9} grams of DNA for example) and plays a pivotal role in serious crime and national security. It is, because of its sensitivity to contamination at such low thresholds, very dependent upon having a rigorous and organisationally pervasive quality management system to a standard such as ISO17025:2005. It requires objectivity and competence to be constantly tested by rigorous peer review and must be free in its evaluations for the Courts from conscious or unconscious bias as a result of any pressure from police investigators. It also requires state of the art facilities with strict environmental controls and a capital budget to allow for modern, high cost, analytical instrumentation. It needs highly trained and competent staff with a clear career path development from bench worker through to expert Court Reporting Officer. All of this requires stability and investment. It cannot survive a lack of clarity, a short term approach or a commoditisation mentality.
- (c) The cost of forensic science is typically less than 1% of a total police force's budget. Commoditisation may yield a small fraction of that 1% in supposed savings but will generate much greater costs in aborted trials, failed prosecutions, appeals and community confidence.
- (d) The future choices are therefore not just about FSS but the entire model for forensic science provision. If the direction of travel towards full commercialisation is irreversible, then at the very least there must be a fundamental review of the model so that it can sustain long term a viable and world class forensic science capability and capacity within the UK.

I am conscious that Forensic Science is a complex area, with often very different perspectives from within the various arms of the CJS. If I can be of any further use to the Committee in my capacity as the head of the only fully public sector forensic science provider (along with my Scottish equivalent), please do not hesitate to ask.

Stan Brown
Chief Executive
Forensic Science Northern Ireland

11 February 2011

Written evidence submitted by Anne Chapman-Damms (FSS 47)

1. I have been employed as a Forensic Scientist since 3 September 1979, when I joined the Metropolitan Police Forensic Science Laboratory (MPFSL). In 1996 the MPFSL merged with the Home Office Forensic Science Service to provide a national service to the Criminal Justice System. I have in total 31 years of dedicated service to the Criminal Justice System. I have received a commendation from the Head of the Anti-Terrorist branch, in recognition of some of that work.

2. I do not believe I am qualified to answer many of the questions before you—however I strongly believe that these questions should have been answered before the closure was announced. It seems to me that the stable door has shut after the horse has bolted. Not only bolted but in the abattoir!

3. I would, however, like to address your final question.

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So far as they are known, are the arrangements for closing down the Forensic Science Service, making staff redundant and selling its assets adequate?

4(a) We have been told by our CEO that “The Home Office have asked us to look at our redundancy terms going forward.” Although I understand that one of my colleagues had a meeting with the Minister, Mr James Brokenshire, who was not aware that we were being asked to review our redundancy package. The FSS has been going through a process of transformation, some sites have been earmarked for closure, while staff at the remaining sites, have gone through an assessment/re-grading in order to retain our jobs within the “transforming F.S.S.”. Those who didn’t make the grade-for whatever reason-have left, or have been promised, the current package. I believe it is grossly unfair and morally wrong to attempt to alter the redundancy package for the remaining staff at the FSS. Given this, there is potentially a huge cost associated with making the 1600 staff, still within the organisation redundant, a cost that may take many years to recover, if it is ever to be recovered.

4(b) It is clear that neither Police insourcing nor the alternative Forensic Providers are currently in a position to take on the 60% of the work currently performed by the FSS, there is therefore an immense risk to the Criminal Justice System. I understand that many of these private companies are loss-making and that the future provision of Forensic Science is therefore not secure. It takes many years of training to reach the levels of experience required for complex Criminal or Terrorist investigations, the assumption that new providers can enter the marketplace, within the 12 to 15 month timescale the FSS has been given, completely ignores this.

4(c) Unless the company is transferred to another owner, effectively as a going concern, there are insufficient facilities available to perform the functions we currently perform. Setting up a new Laboratory is not just a matter of renting office space, and wheeling in a few graduates. However, while it is the Minister’s “*firm ambition is that there will be no continuing state interest in a forensics provider by March 2012*”, this takes no account of the Police insourcing of Forensic Science, and the effect this has on the commercial market by upsetting the level playing field.

4(d) My colleagues and I need to focus our attention on completing the work in hand and “*to ensure an orderly transition*”, of the FSS out of the Forensic Market. Instead everyone is worrying about whether we will get what is rightfully ours. Forensic Science is a highly specialised industry and after spending 31 years (I joined at 18) working in this field I will need to be re-trained and then I will have to start at the bottom again. An acknowledgement that our compensation package will not be reduced might enable me to start all over again and would at least give my family and me some financial and emotional security whilst I go through this process.

4(e) These thoughts and opinions are my own, they are not necessarily those of my employer. This letter is not authorized by or sent on behalf of the sender’s employer. It is the personal responsibility of the sender.

Anne Chapman-Damms

26 January 2011

Written evidence submitted by Gemma Escott, Elizabeth Harris, Nicola Taylor and Michelle Walton (FSS 48)

DECLARATION OF INTERESTS

1. We are senior scene attending biologists working at the Wetherby laboratory of the FSS and are therefore responsible for the scientific work undertaken in the most serious and major cases primarily in the North East (NE); this includes the interpretation of scientific evidence at the scene during the initial hours post incident to the presentation of the evidence at court. In addition, we are responsible for a large proportion of the peer review that takes place routinely in the FSS to ensure the quality of the work undertaken by our colleagues; this can include International casework and cases for the Court of Appeal. We are all involved in the training of forensic scientists over various specialisms (DNA analysis, Low Copy Number DNA analysis, scene attendance, blood pattern analysis and general body fluid training) and the Police (including participating in Senior Investigator Training in partnership with Greater Manchester Police).

2. We feel passionately about the future of forensic science in this country; we are proud of our achievements to date and expect a consistently high standard from our colleagues. Our primary drive in responding to the Committee is not only the concern for our own jobs and those of our colleagues, but a fear for the future of forensic science in a cost orientated market place with an ethos very different from that of the FSS. Our comment will relate to our own experience of working with local forces and will primarily relate to biological evidence types; as such we will only address the questions we feel qualified to answer.

3. High profile cases dealt with by us include: the cold case review into the death of Lesley Molseed in 1977 (Miscarriage of Justice for Stefan Kisko; 1999 to date); the cold case review into a series of rapes and murders in the 1980s resulting in the conviction of a second assailant David Mulcahy (1998—2000), the disappearance of Claudia Lawrence (2009 to date); and the Crossbow cannibal killer in Bradford (2010).

Question 1: *What will be the impact of the closure of the FSS on Forensic Science and the future development in the UK?*

4. A concern with the break-up of all the laboratories, but most relevant in the NE is that there is a unit of expertise and experience in all biological fields and particularly in DNA analysis and Blood Pattern analysis that will be lost or diluted to the detriment of the CJS.

5. Nationally, there is more opportunity for scientists to migrate between competitors including Cellmark and LGC so that there is a chance that the expertise will not be fully lost to the country. Without significant relocation these opportunities are currently non-existent for Wetherby scientists, many of whom will be forced to consider career choices out of the forensic arena. Relocation or career change ultimately has the same effect of leaving the NE without the relevant pool of expertise.

6. Unfortunately many of our experienced colleagues have been so disillusioned with the state of the forensic market place that they have already chosen to leave forensic science altogether to pursue opportunities elsewhere. This means that the body of knowledge and experience which takes years of investment is being rapidly depleted. A newly recruited biologist will take as a minimum five years to attain a level where they are competent against current FSS standards to attend major scenes of crime and deal with complex casework.

7. The disillusionment ultimately stems from the implementation of the National Procurement Framework. We fully accept that value for money has to be a prime objective. One of the most valuable skills of a scientist is the ability to focus Police strategy into targeted, cost effective work for the court. However, we have fundamental concerns and experience of instances when the focus on cost has outweighed usefulness and where, in our view, there has been the potential for cases to go off track. For example, with some forces casework strategies can be so explicitly set down by the customer that the value of the forensic results can be misunderstood if not interpreted correctly by a scientist; a DNA scientist may be asked to evaluate a DNA match when, for that case, the source of a body fluid is not key to the court but how that body fluid was transferred—eg in an assault is the suspect a bystander or an assailant? To answer that question, there needs to be blood pattern expertise, a product of work for which some Forces, under budgetary constraints, are not always willing to procure. These issues have been previously highlighted by our colleagues in File on Four, Radio 4 (Tuesday 8 December 2009).

8. The fact remains that there are individuals within Forces who may be working in isolation and are therefore putting at risk the quality and appropriateness of the forensic science presented to the courts, who are ultimately the end user. In our opinion, one of the main factors in maintaining the high quality of interpretational casework at the Wetherby laboratory is that there is a group of senior scientists who, throughout the life of a case, challenge, review and question the decisions made by our peers and colleagues. The danger of reducing the number of these scientists so that the work could, for example, take place within Force, is that without experienced peer review and robust challenge the quality in a more subjective area, such as blood pattern interpretation will drop. In our opinion, this is not because the individuals concerned are poor scientists, it is that they have either lost confidence due to a lack of exposure to the level of casework or they have become over confident in their interpretation due to a lack of robust challenge in a safe environment.

9. A recent investigation by the Association of Forensic Science Providers (AFSP) into the amount of screening of items in force and its impact on the quality of forensic science has been presented to Association of Chief Police Officers (ACPO). In our opinion, the transfer of forensic science opportunities to a situation where they are fully in force, at a level below “critical mass”, is not in the interests of Justice.

10. To our knowledge, the FSS is one of the few commercial organisations investing in the research and development of Forensic Science alongside the practical routine application of Forensic techniques. Our understanding is that financially supporting a non fee earning but active Research and Development unit within the FSS has reduced profitability. However, new developments, which include the award winning DNA Insight (DNA interpretation software), have the potential to allow the practitioner greater freedom and quicker access to the interpretation of DNA results thereby increasing the efficiency in delivery of results to the customer. This technology has not been fully implemented since the announcement in December 2010 and it is not in use at Wetherby. Hence we have not been able to deliver the benefits to our customer in terms of efficiency and decrease in cost and our Forces have lost the potential to utilise the advanced level of interpretation possible for complex DNA profiles and provide evaluative statements for the court. Our understanding is that this software potentially could have been marketed both nationally and internationally to other forensic providers, hence generating another source of income for the FSS. Over the years scientists have also developed or enhanced techniques as part of routine casework, outside of R&D and such developments may be lost with the cost implications imposed.

11. The FSS has led forensic science, the development of DNA technology and its application in the Forensic setting from the outset. Our competitors, in our opinion, have followed in our wake and have reaped these benefits. They have also routinely recruited fully trained FSS scientists at competitive salaries, who in turn can deliver upon immediate employment. These companies have built their organisations, scientific principles and applications to casework on ex FSS staff. They have not to date had to absorb the full costs of training and developing staff, nor have they had the overheads associated with a large, ex civil service body. We have no doubt that, should the FSS be fully broken up, this will have a consequent impact on the cost of sustaining their organisations, which will potentially result in increased costs to the customer and ultimately the tax payer.

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Furthermore, there are aspects of forensic science that are labour intensive or involve “tests” that are rarely used but these do, at times, prove key to a case—especially in major and critical investigations. These aspects and tests are often not cost-effective and therefore may be lost in a future of only private sector providers; alternatively it may result in increased costs to the Police. There will be no opportunity for the Home Office to recoup money generated by forensic science for the public purse, however if the Home Office retained some footing in forensic science these opportunities would remain.

12. We struggle to envisage the UK remaining world leaders in the application of science to Police work without the FSS practitioners and scientists who work together at the FSS to help drive this innovation. We are concerned that when the forensic market place becomes entirely profit driven, the development of new technologies will stagnate. Whilst universities or a Home Office department could deliver this research work in the future it is imperative that the work is driven by practitioners for the benefit of forensic science and directly relates to the practical application of forensic science within the CJS.

Question 2: What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

13. The tendering process introduced with the National Framework has had the effect of breaking up casework into packets of work. Tendering exercises in some ACPO regions have resulted in different packets being awarded to different companies, such that the forensic investigation of a case may fall across multiple providers. We already see local forces taking the cheaper intelligence options for casework when evaluative assessment from an FSS scientist would have been more appropriate. We envisage that this trend will increase following the closure of the FSS and smaller providers potentially moving into the market. This breakdown of a case leads to unnecessary complications, both practically and in terms of efficiency, in relation to the continuity, transfer and examination of exhibits. More importantly, situations could arise where there is no collaborative approach between various experts. This leads us to a real fear that key evidence might be missed or the significance of a particular finding will not be fully realised. Ultimately, we feel strongly that the cohesive and logical presentation of scientific rationale and results in court, as delivered by us now, will not realise a benefit by multiple experts being given limited control over various aspects of the case. A complex case becomes disjointed and more difficult for the court to follow.

14. The FSS is currently responsible for approximately 60% of the forensic marketplace—in Wetherby that increases to approximately 90% which we believe is a reflection of the high standing and track record for delivery that we have with the NE forces. It is unlikely that any of our competitors from their current sites will be able to fully absorb the amount, scope and level of our current casework within the NE. This will once again lead to tendering for separate packets of work by the private companies and our concern is that, regardless of the ability of the individual scientists, there will be a consequent drop in the understanding of the forensic results delivered, in order for the jury to make their judgements.

15. Similarly, when the FSS is broken up, it is not clear how a response to a mass disaster or major incident will be co-ordinated, eg the Olympics in 2012, when elements of forensic science are delivered by multiple providers. Clear procedural steps would need to be implemented to spread and coordinate the work and to absorb the impact that it will likely have on the individual company's routine work.

16. The issue of impartiality is dependent on who steps in to provide a solution to the break-up of the FSS—in the North East this is an open question. We have all had experience in court where our impartiality has been questioned—both in relation to the often cost driven strategy and subsequent interpretation—on the basis that we are paid by the Police. Needless to say, our impartiality and independence, as for other FSPs, has been easier to defend purely because we are not owned or answerable directly to the Police. Our overriding duty is to the court; we all strongly defend our impartiality and conduct our casework accordingly ie not for the benefit of either prosecution or defence or necessarily our internal timeliness or cost targets. The freedom of a scientist to make a decision as to these occasionally competing priorities would be affected by who takes over the responsibility for forensic science generally, and specifically in the North East.

17. An obvious working solution to the problem of a lack of forensic employers in the NE is that the forces combine and operate a laboratory(ies) as a consortium. In our view this approach could work in the North East region. However, this would require the maintenance of a separate management system, such that conscious steps are taken to preserve the independence of scientists working in the police environment, thus allowing opportunity to fairly and effectively influence the investigation strategy. As such we would like to see stronger leadership from the Regulator in relation to Professional Standards both in Force and for all Forensic Science providers to ensure the provision of impartial and sound forensic evidence and its contextualised interpretation.

Question 5: What are the alternatives to winding down the FSS?

18. We understand that the government has acknowledged that the forensic marketplace is not working in its current form and we agree with this view. However, to be able to fully identify the alternatives to winding down the FSS we believe that firstly the fundamental requirements of ACPO, the CJS and the Home Office need to be identified.

These requirements need to include consideration of the following:

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- The level of forensic provision required by ACPO for different offence types.
 - The level of forensic interpretation required by the CJS, particularly the courts and for different offence types.
 - Whether there is a willingness to support the ongoing expertise in aspects of forensic science that are rarely used and hence not cost-effective, or whether the view is to cease such functions such that they will no longer be available for use
 - Whether there is an acceptance by ACPO and the CJS of the risk to them associated with the outcome of cases if the level of forensic response to different types of incidents drops, including whether they are happy to accept and shoulder the risks of breaking up work in major and critical incidents across several forensic providers.
 - The level of quality standards required across England and Wales.
 - The appetite for continual research and innovation in Forensic Science.
 - The nature of forensic response that will be required should any mass incidents occur.

19. We believe that reform of the marketplace will be needed to deliver the defined requirements. However, should these requirements not be fully understood prior to the winding down of the FSS, then the resultant market may not deliver the correct solutions, resulting in a piecemeal response that lets down the victims of crime and the CJS as a whole.

*Gemma Escott
Elisabeth Harris
Nicola Taylor
Michelle Walton*

11 February 2011

Written evidence submitted by Miss Sammy Warnakulasuriya (FSS 49)

DECLARATION OF INTEREST

1. I am an employee of the Forensic Science Service, currently holding the post of Senior Forensic Scientist at the Wetherby Laboratory. Any views expressed in this submission are my personal views.

2. I have been a forensic scientist since 1990. I started my career with the Police Forensic Science Laboratory Dundee and subsequently became an independent consultant for Forensic Access, working primarily for the defence. I joined the Forensic Science Service in 1998 and intend to remain with the FSS until its anticipated closure in March 2012.

3. As simply a practitioner of 21 years, I do not feel that I am in a position to address the issues raised in points 1, 3, 4, 5 and 6; however, I would like to comment upon the following question:

What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

4. A few years after joining the FSS, a case file was handed to me for consideration. The request from the police force in question was to address whether or not there was any evidence to assist with differentiating between the accounts proposed by a female complainant and a male suspect.

5. The female complainant alleged that she had been raped in an alleyway by the male suspect, having met him earlier in the evening, in a nightclub.

6. The male suspect alleged that they had in fact had intercourse within the confines of his bedroom and that the act had been consensual. He further explained that the complainant had removed all her clothing in his bedroom, with the exception of her socks.

7. The forensic examination undertaken was rather simplistic; the female complainant's socks were examined for the presence of carpet fibres which could have originated from his bedroom carpet.

8. The result of the examination was that fibres matching those constituting his bedroom carpet were found on her socks; however, a further, larger population of carpet fibres of a different colour were also noted on her socks.

9. Following a discussion with the investigating police officer regarding the potential source of this other population of carpet fibres, it was discovered that these in fact matched the constituent fibres of the suspect's hall and stair carpet.

10. On the basis of the findings, I concluded that there was extremely strong support for the suspect's account. This information was presented to the complainant, who maintained her position and the case was taken to court. Whilst in the witness box, the complainant admitted that her allegation was false and that the suspect was in fact telling the truth.

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11. The complainant was sentenced to one year in prison. However, rather more uplifting was that this case led the suspect to join the police force by whom he had been investigated, and remains a serving officer to this day.

12. Sadly, my tale does not end here. Yesterday, several years later, I found myself giving evidence at the trial of three Islamist males who are accused of the attempted murder of Radislav Krstic, a Bosnian General who has been found guilty of war crimes, and is serving out his sentence in a UK prison.

13. Whilst presenting my evidence, Counsel for one of these individuals presented me with an opinion from her independent expert. He had opined that blood found on her client's clothing had been deposited as result of the blood being flung from the injured party's hands and that the blood could have travelled a distance greater than 9m (29.5'), by this mechanism.

14. Counsel purported that her client was simply an innocent bystander who had arrived after the event. This was in contrast to my opinion, which was that the blood had been deposited by a source which was no more than 1m away from the injured party and which had been projected as a result of an impact into wet blood, thereby placing the suspect near the injured party at the time of the incident.

15. This independent consultant's fanciful opinion amused both the jury and the presiding Judge, The Honourable Mr Justice Henriques. In this instance my expertise was not required to highlight the folly of this expert view. However, the scene may well have played out differently, had the independent scientist's opinion been more realistic and furthermore, had I not been present to consider his theory, following the closure of the FSS.

16. This case is still sub-judice³⁰ and as such I am not in a position to act upon my concerns. However, the salutary thought is that this independent consultant will continue to be paid from Legal Aid funds, while my colleagues and I are forced to seek employment elsewhere, perhaps in other professions.

17. I would like to thank you for taking the time to read my submission and hope that it may positively influence the review into the closure of the Forensic Science Service and the loss of both its expertise and impartiality.

Samantha Warnakulasuriya
Senior Forensic Scientist

11 February 2011

Written evidence submitted by Dr Richard J C Barron (FSS 50)

1. *Declaration of Experience:* I started using gas chromatography for the analysis of pesticides during my final year at Hatfield Polytechnic in 1970. Since 1979 I have worked in private industry as an analyst using gas and liquid chromatography to analyse environmental, forensic and food samples with detection limits routinely in the parts per million (mg/kg) but also in parts per billion (micrograms per kilogram) and below. I have also used ELISA methods from their earliest introduction for the analysis of proteins and allergens.

2. *Declaration of Interest:* At the present time my son is employed by the Forensic Science Service (FSS) working on software development projects. I know little else about his work except that he never expected to get rich (major problem with being a scientist) but at least felt he was doing a worthwhile job.

3. *Letters to my MP:* Soon after the announcement of the decision to close the FSS, I wrote to my MP expressing my feelings about the closure. The response from my MP did not refer to my specific questions but did reinforce my views that the government action was ideological and not the result of a full and open review. The use of words like "monopoly" and the phrase "hugely loss making" have been used which are clearly political and do a disservice to politicians who use them. In fact it is amazing to find that despite this attitude, the FSS is still a world leading service whose work is judged every day in the courts and that the FSS is also held as a world leader by an international court of peers.

4. Despite the Minister for Crime Reduction claiming there is no justification for keeping FSS open, there have been many justifications given by others and I found that my initial "gut" response to the closure was in fact a view held by many more qualified than myself; (Sara Payne; Letter to *The Times*, 28/12/2010; editorial in *New Scientist* 5/1/2011; Prospect Union). Many newspapers have run articles using phrases such as "closure of forensic service puts justice at risk"; "experts warn of crime scene chaos"; "UK forensic cuts: International justice will suffer"; "forensic cuts are criminal"; "it is deeply regrettable that we have lost a world-class organisation".

5. *Government faith in Private Organisations:* My experience has taught me that forensic science is not an activity suited to the private sector. The latter's interest is the bottom line and they cannot always deliver what they claim. Indeed, the governments experience with the computer industry should warn them of this. Also from my own experience, in about 1990 four companies (Clayton Environmental (for whom I worked), Intertek, Water Quality Centre and WRC-NSF) approved by the DWI to do work on water analysis for the CPP under Regulation 25, were audited by representatives of the DWI. Unknown to the original four, Laboratory of the

³⁰ The Committee was subsequently informed that this case is no longer sub-judice

Government Chemist (LGC) were also involved. Despite never having done this type of work for the CPP, the LGC had by far the best audit report and Intertek, Claytons and WRC-NSF were removed from the approved list of analysts. Within 18 months the chairman of the CPP wrote to these three labs asking if we would re-apply for approval because the LGC had “lost the confidence” of the CPP and were no longer considered suitable. It would be a disaster if this happened to the justice system.

6. At the moment the police think that using the private sector is cheaper than the FSS. Price pressure is mainly from DNA analysis and drug analysis. Both these types of analysis are now “routine” and the techniques used can be applied to many other types of analysis. There is therefore scope for the private sector to reduce prices to put pressure on competitors, especially since they do not do any significant research and development. These prices will only be cheaper as long as the FSS is in the market. Also, much of the expertise of the FSS cannot be done by the private sector. Do the police propose going abroad for this work?

7. The FSS is a “national” laboratory that works within the international community of national forensic science services. They are an open community exchanging ideas and developments. This is of great benefit to justice in all the countries involved, but will not have been included in government’s accounts for the FSS. On the other hand, the private sector is concerned with “intellectual property” and the bottom line, actions that only benefit directors and share-holders. (Incidentally, I thought that the Government Chemist was an advisor to the government and had responsibilities to maintain analytical standards, but he is in fact a director of the LGC and would stand to gain from the expansion of the LGC after closure of the FSS).

8. *Maintenance of Standards*: While looking for information to try and understand the government’s attitude to the FSS, I have come across numerous bodies which seem to be involved with regulating the FSS. It is difficult to remember that the FSS is an internationally respected service whose work is “audited” on a daily basis in the courts. No other scientists have their results challenged by lawyers as regularly. The FSS also has the UK Forensic Regulator, aided by the Forensic Science Advisory Council, ACPO and National Police Improving Agency (NPIA) to deal with. How many of these bodies are really necessary, and how much do they cost?

9. The regulator now wants UKAS to accredit all forensic providers. I have had to deal with UKAS since its inception and while I rate it better than OFSTED, there are still problems. Where does UKAS get sufficient independent experts to audit forensic laboratories The FSS would be a suitably regarded organisation, but they are being shut. UKAS accreditation does not guarantee the best, only the acceptable. Is that really what we want, to go from world leader to barely adequate.

10. *Alternatives*: The FSS has not been safe in the hands of ACPO. With a total budget of £14.5 billion in 2009, they have persuaded the government that savings can be made by closing the FSS. The FSS is at present losing £24 million. Compare this to a police overtime budget of £400 million when with more police and fewer crimes this should be a much smaller number and only 5% of it would pay for the FSS “loss”. The total forensic provision is £400 million annually to police (0.04% of police expenditure). The FSS last year had an income of £113 million and lost about £24 million, giving a cost of the service as £137 million. I would like to know where the other £263 million went, (figures taken from various reports on the internet).

11. Some police expenditure goes to the private sector which has about 40% of the market, but is cheaper (?) than the FSS so that accounts for (say) £40 million. The police are still sitting on over half the forensic budget. If the police are going to keep the forensic budget (which I think they should not) then surely ACPO should be told that the FSS is too valuable to the UK to lose and that ACPO should find the £24 million needed from the other £200 million they are keeping (a bit over 10% to be saved).

12. The FSS should be a part of the Ministry of Justice which has a budget similar to the police and of which about £2.1 billion goes in legal aid. If defence lawyers want to challenge a forensic result, the cost frequently comes out of legal aid. I have done such work on drugs when the old police labs had done a spot test (cheap) but I showed that the results were inadequate for a prosecution using more expensive HPLC. Our costs came out of legal aid. I have also looked at FSS results and told a solicitor that his client is “clutching at straws” and that the FSS results were correct and that any work I did could not be justified. Forensic scientists should be treated like other expert witnesses as servants of the court. If lawyers could only challenge the quality of the results, savings could be made by reducing duplicate analyses which would reduce the overall costs to the tax payer. Also the £400 million forensic budget should be taken from the police budget and become a forensic budget within the Justice department.

13. *Should police control the forensic budget*: Many people, me included, did not realise that the FSS was a sub-contractor to the police and that the police decided what forensic evidence needed to be tested. It is this lack of independence that now worries people. By all means have properly trained crime of scene officers collecting all the evidence they can, but how is justice served if the police decide on economic grounds which samples are to be analysed. A 2010 paper from the American Society of Criminology states that over five years, 14% of all unsolved murder cases and 18% of all unsolved rape cases (cases involving almost 30 000 victims and their families and obviously almost as many communities) contained forensic samples that had not been submitted for analysis. About 40% of these cases involved DNA samples. Note that this leaves about 60% of cases not covered by DNA analysis. The FSS can do things the private sector does not. Will it still be

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able to provide such services to the community if it is chopped up and spread thinly around the police and private sector.

Dr Richard J C Barron, PhD, BSc

12 February 2011

Written evidence submitted by Mrs Hilary Kingston (FSS 51)**DECLARATION OF INTEREST***Concerned member of the public*

1. As a lay person I can only speculate on the impact of the closure of the Forensic Science Service on forensic science and its future development, but there have been numerous press reports by eminent scientists such as Professor Niels Morling, president of the International Society for Forensic Genetics, concerning the probable impact and it seems self-evident to me that the Service is vital to provide the police with the necessary weapons to fight crime. The FSS is objective, reliable and innovative and, in my opinion, without it the police will, without a doubt, find it harder to get convictions. Only recently DNA evidence enabled a murderer to be convicted 14 years after he was originally found “not guilty”. Without a proper forensic service more criminals are going to get away with serious crime. This would be a terrible indictment of the British justice system.

2. Professor Morling states that closing the FSS is a backward step and considering the research and development that the Service carries out and the contribution that this has made to the prosecution of crime, one can only agree with him. As he points out, who will do the development work? And who will look after the quality of forensic science in a competitive market? The service that the FSS provides, and the research and development that it does, is used and trusted by police forces worldwide. If everything is determined on cost alone, how can this be maintained?

3. I have been informed of the official financial position of the Forensic Science Service by my MP in reply to a letter I wrote to her at the end of December stating my objection to the closure. In her letter she states “There is no justification for the uncertainty and costs of trying to restructure and retain the business. It is impossible for things to go on as they are.” It is not clear to me, however, how the current position came about but I have no doubt that this information will be before the Committee. I understand that the present Government must make cuts and cost savings in the current economic situation, but it seems to me that closing the FSS is a short-sighted measure which will in the long run cost far more than the savings made. My MP refers to “the current challenging forensics market” but doesn’t explain this except to say operating losses are about £2 million per month. I would have thought that there must be plenty of scope to restructure and retain the business since it is government owned and therefore the Government can control and regulate how it operates. If the £50 million grant given to the service in 2009 did not achieve its intended result, then there must be considerable inefficiency in management which should be addressed. It seems to me that there is no wish by the Government to even consider alternatives which, given the importance of the service to the criminal justice system, appears to be highly irresponsible. The service is so important it surely should not be put into private hands.

4. The FSS holds the national DNA database (itself a rather controversial subject) and this is presumably classed as one of its assets which the Government proposes to sell off. So what will happen to it? Will it be sold to the highest bidder? Or will it be scrapped? I find it inconceivable that the information held on this database should be either privately owned or lost completely. It must be maintained as a public service and I simply don’t understand how any government can seriously consider any other position. And the research and development that goes hand in hand with the maintenance of such an important asset in the prosecution of crime should surely also be considered as a public service and continued as such.

5. Other assets include specialist laboratories. What will happen to these? 1,600 staff will lose their jobs. These include trained scientists and technicians whose expertise will thus be wasted. There is also a cost to this. When seeking to save money, it seems to me that the Government cannot have properly balanced the savings against the costs involved. There are bound to be serious knock-on effects.

6. The *Daily Telegraph* of 28 December 2010 carried the report of the letter from 33 senior forensic scientists co-ordinated by Professor Morling and it evoked numerous online comments from members of the public which make interesting reading and which should certainly be looked into by any committee considering the closure of the Forensic Science Service. The closure was announced mid-December by a junior minister without any sort of consultation at a time just before Christmas when generally the public had other things on its mind. Were the Government hoping that the announcement would go unnoticed? Certainly the press did not pick up on it until after Christmas when both experts and interested parties such as Sarah Payne’s mother expressed

grave concern. I would urge the Committee to take into account all the comments made about the closure in the press and online when conducting its inquiry.

Mrs Hilary Kingston

12 February 2011

Written evidence submitted by Dr Susan Pope (FSS 52)

In this submission I address questions 1, 2, 4 and 5 posed by the Select Committee.

DECLARATION OF INTERESTS

1. I am employed by the Forensic Science Service This submission is my personal private opinion and the views expressed do not necessarily reflect those of the FSS.

2. I have worked for the Forensic Science Service since 1987 and feel privileged to have taken part in the original research and development on the forensic use of DNA profiling, which was introduced by the FSS. The FSS has a worldwide reputation for innovation, which I feel is being thrown away for the sake of savings in short-term costs.

The FSS incurs special costs because:

- (a) It carries out the forensic research function for the UK.
- (b) It also acts as the guardian of retained samples for use in cold cases, which are carried out on behalf of the Criminal Justice System.
- (c) It is currently part way through closing three of the existing seven sites (which will be completed in March 2011), while undergoing transformation of the remaining four sites. This has generated short-term costs that will not continue indefinitely.

3. My concerns for the future include:

- (a) The unsuitability of forensic science for the market place.
- (b) The inability of the existing companies to handle the volume of work that is to be transferred.
- (c) The effect on national security of private companies, some foreign, having access to confidential police files and details of suspects, victims and witnesses, especially in terrorist incidents.
- (d) The effect on future research and development of novel forensic techniques without the infrastructure to support a coherent and relevant research programme and to implement the resulting developments into the Criminal Justice System.
- (e) The effect on future investigations into undetected cases and miscarriages of justice.

FORENSIC SCIENCE IN THE MARKET PLACE

4. At the time of the great advances in recognising, developing and introducing DNA analysis into forensic science, the FSS was part of the Civil Service. This provided the security to recognise and investigate the application of an entirely new field of forensic science, without having to justify individual short-term costs. Currently, the playing field is not level for several reasons. The FSS has been the provider of last resort as a resource for expensive though rarely required specialist techniques, which while not routinely required, become of great importance in major cases. The system of provision by multiple suppliers has developed haphazardly. Newer Forensic Science Providers have been able to cherry pick contracts for more routine analytical techniques and are able to undercut the costs by not providing a range of the wider aspects of forensic science. This is sustainable only as long as the back up of the FSS is available. Without the safety net provided by the FSS forensic investigation of some major criminal cases will be incomplete.

5. Another issue is the insourcing of early investigative work by the Police themselves. The Dainton Report and the Royal Commission reports raised this in 1993–4 and recommended a separation of forensic provision from the Police. Insourcing damages the market place because it effectively positions the major customer as a competitor for the same business. It appears that the outcome of the current routes, if continued, would be the use of insourcing services for examination and searching of items, followed by the use of remaining Forensic Science Providers solely as routine analytical units for tests such as DNA profiling. This assumes that the end of the process is the stage at which the forensic findings are complete. However, especially in DNA analysis the profile itself must be interpreted. This is a specialist and challenging area, particularly where mixtures are obtained or complex statistical calculations such as those including relatives are involved.

6. In addition, the observations of any trace material must be considered in relation to the case circumstances, including other information available about the item or body fluid that it originated from and the data and experience of methods of transfer to and persistence on an exhibit. If this is not done, then the value of performing a simple analytical test will be lost since the questions that are asked at Court very often revolve around how and when a trace material or body fluid was deposited.

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7. The important issue is not just the ability to carry out the technique but also the expertise to interpret the results in the context of the case circumstances in a fair and balanced way. The unintended consequence of closing the FSS with the associated loss of expertise and a policy of insourcing will be a lack of impartial, transparent interpretation and evaluation with obvious possibilities for miscarriages of justice. The Police themselves are of course investigators but they are not experienced or trained as evaluators, which is the role required when providing impartial expert opinion.

8. Insourcing and treating FSPs as analytical units will lead to a loss of expertise in areas outside the mainstream areas of DNA and blood alcohol testing. There are early signs of this already happening as a result of the policies of some Police forces.

9. In addition, the requirements imposed by the CJS for scientific techniques and experts to be accredited by the United Kingdom Accreditation Service, to the standards of CJS ISO 17025 are not applied equally across Police laboratories and external FSPs. This results in additional costs for FSPs, including the FSS, which are not borne equally by the Police. The standard of examination and notes taken must be greater than those currently taken by Scene of Crime Officers for fingerprints and must meet the full forensic benchmark.

INABILITY OF EXISTING COMPANIES TO CARRY OUT WORK TRANSFERRED

10. The time frame for closure is too short to enable the contracts to be transferred smoothly and for both other FSPs and Police insourcing to develop the capacity to handle this amount of work, both in terms of laboratory facilities and qualified staff. This has already been shown with the imminent closure of the Chorley Facility and the effect on provision for analysis of alcohol levels in blood samples taken under the Road Traffic Act. If the entire FSS is closed this will be magnified many times. If the pattern of using FSPs mainly as DNA analytical units rather than allowing provision of a full forensic service continues, there will be insufficient work to sustain multiple providers and the market will collapse even further.

EFFECT ON THE INVESTIGATION OF TERRORIST INCIDENTS

11. At the time of the London terrorist bombs on 7th July 2005, the FSS was called on to carry out an extremely large amount of extra work, without notice, to high standard, while maintaining confidentiality. At the same time, they were able to provide their usual service for all other forensic work. As the system becomes more fragmented into smaller and smaller contracts being carried out by more firms and individual Police forces, this will no longer be possible. Since the relevant FSS staff have already been positively vetted, they were able to be trusted with extremely sensitive and confidential information without further ado. Again, this would be difficult to arrange speedily if fragmentation of provision continues, and no single company provides a comprehensive range of services. This would be even more complicated if the companies providing the service were not UK-based.

RESEARCH AND DEVELOPMENT

12. For many years, the FSS has been able to carry out a focussed research programme, which is not based on piecemeal pieces of research. It has had the ability to look at real issues of operational importance in a coherent way and to introduce the resulting advances into operational casework. This requires research to be carried out within a forensic environment, because although individual pieces of work can be carried out in academia, there is a need for a holistic approach. The closure of the world renowned FSS research facility will lead to a loss of expertise, as staff seek employment in other countries or outside forensic science altogether. This cannot be replaced without a significant investment, because although many universities run forensic degrees, these do not (and cannot) provide the necessary expertise to understand the actual issues. This can only be gained from an active and on-going forensic laboratory environment. This is the case for both the more obvious development of new analytical techniques and equipment and even more so for the very specialised small group of experts who carry out research into the statistical evaluation and the interpretation of forensic findings.

FUTURE INVESTIGATIONS

13. DNA extracts, the remains of body fluid stains and other material such as textile fibre tapings that have been generated from exhibits submitted from criminal investigations are currently stored by the FSS at the Doranda Way facility. These require specialist storage, often in freezers, to maintain them in good condition and to prevent contamination e.g. by DNA transferred from people retrieving items in order for them to be suitable for later reanalysis in undetected cases or investigations of possible miscarriages of justice. This will need to be maintained, together with staff to record, manage and retrieve samples, even if the FSS is disbanded and this will continue to form a significant on-going cost that cannot be avoided.

14. The CJS will be affected by the difficulty in tracing expert witnesses previously employed by the FSS, many of whom will either emigrate to find forensic employment or leave the field altogether. If traced, they will not have ready access to the case files and information needed for defence examinations or for giving oral evidence in Court. This will increase the expense and delay criminal trials for many years to come. I have experience of this on a smaller scale, since I previously worked at an FSS facility that closed in 1997. As one of the few remaining scientists with personal knowledge of the people and systems I am still regularly requested

to assist in tracking down people, samples and information for both ongoing criminal trials and undetected cases. If the entire FSS is closed this will be unmanageable and delay or prevent the use of forensic evidence in many criminal trials.

ARE THERE ALTERNATIVES TO CLOSING THE FSS?

15. Dismantling the expertise of the FSS will cause huge damage to the reputation of the United Kingdom across the world as the major innovator in forensic science. It will also set back innovation and forensic practice within England and Wales, while insourcing will mean that practices introduced to deal with quality, transparency and impartiality will be lost and the lessons that led to these will have to be relearned.

16. I think the FSS should be maintained as a single organisation, and if this is not possible then assistance should be provided to enable the pool of highly experienced scientists and researchers to be maintained as a group, rather than allowing the collective experience to be diluted and lost. If the aim is to save money while maintaining the services provided, then the Research and Development group must be saved as there is no other equivalent source of expertise to be found anywhere on the world. This can be seen from the letters and editorials appearing in journals worldwide. As a last resort, this could be provided in the form of a Government owned Research Facility in the same way as the Defence Science and Technology Laboratory. However, this would lose the valuable link with operational forensic scientists that informs and directs the research to where it is most needed.

Dr Susan Pope

12 February 2010

Written evidence submitted by Emma Wilson (FSS 53)

INTRODUCTION

1. I have been an employee of the Forensic Science Service Ltd since March 2003 and I have worked in the Fire Investigation Unit since January 2005. I make this submission as a private individual from my personal experience.

What will be the impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?

2. The Fire Investigation Unit (FIU) is a small group of specialist forensic fire investigators. It is the only unit of its kind in the UK. No other forensic provider has specialists in this way. The scope of the FIU is not met by other forensic providers and I personally have concerns about the level of expertise held by some fire investigators outside the FIU.

3. Fire Investigation is a labour intensive discipline and is largely dependant on the expertise of the individual practitioner, as such it is costly to run and it has low commercial return. Fire Investigation is not an attractive business prospect to a private company and so I am concerned that there will be no forensic fire investigators in the UK with the depth and breadth of expertise present in the FIU.

4. There is no commercial incentive to invest in the development of new techniques or processes and so I cannot see any improvement in this sector. This has been shown within the Forensic Science Service by a gradual lack of interest and a waning of investment in the area, I believe this will continue in the future. There are some universities carrying out academic research in this area but this is limited and rarely has an impact on practical fire investigation.

What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

5. I believe the major impact will be seen as Police forces continue to in-source forensic services as much as possible. Clearly there is the risk of a prosecution bias developing when the forensic scientist works for the Police force pursuing the prosecution. A forensic scientist's ultimate responsibility is to the criminal justice system and to the court; any bias could damage the fair hearing of a court case and reputation of the courts in the UK.

6. The forensic Regulator is ultimately responsible for the quality of forensic science provision in the UK. At this point in time I have not experienced any alteration in the way forensic science is being checked for quality and fear that there may be a period of time during which Police forces and new providers are carrying out work that is not properly tested for quality.

What is the financial position of the Forensic Science Service?

7. My understanding is that the Forensic Science Service is making a financial loss and this is one of the stated reasons for the closure. However the Forensic Science service is the largest forensic provider in the UK and has recently been making efforts to reduce its financial burden. There is no other forensic provider that

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supplies all the evidence types to the level of expertise and experience the Forensic Science Service does. Areas such as Fire Investigation which do not make a profit but are supplied to the forces regardless are part of the reason for this position. I would suggest that a service should supply both the profitable and the essential but non profitable forensic disciplines required.

What is the State of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the Forensic Science Service and the volume and nature of the work carried out by Police forces?

8. It is clear that the Forensic Science Service has been a victim of the current market as well as its large size and diverse services. The forensic science market is shrinking and will continue to do so as the Police budget is cut and in-sourcing increases. Forensic science is not a true market, there is no space for growth and with the shrinkage envisaged I can see no reason for new providers to enter the market.

9. As I have said the current private forensic providers do not have the capability to deliver Fire Investigation at the same level of service as the Forensic Science Service. Nor do I believe it to be their aim to provide such a service; it is an expensive prospect for low return.

10. Fire investigation has encountered competition from the fire brigades. This is a service provided to investigate fires for community safety reasons but I have seen the presence of fire brigade investigators more at crime scenes and giving evidence in crown court in recent years. I believe that this is one of the major reasons that fire investigation is no longer a commercially valid forensic service. Police forces do not pay directly for this service, the fire brigade investigators are paid from internal brigade budgets and thus the government continue to pay for this type of investigation. This "free" fire investigation provision by fire brigades is used by police on a large scale and as such, unless the fire brigades are treated as forensic service providers and they are subject to the same quality regulations as all other forensic providers then there cannot be a fair competitive market for the provision of fire investigation to Police forces. I believe this will result in the loss of forensic fire investigators and their expertise and the resultant problems to the criminal justice system regarding quality will become evident in the future.

11. In its current form forensic Fire Investigation is not a commercially viable concern and unless changes are made, to include the fire brigades, in-sourcing and a restructuring of the market, I cannot see any forensic science provider supplying this service in the future.

What are the alternatives to winding-down the Forensic Science Service?

12. I understand that the requirement is for as much of the forensic work as possible to be supplied by private companies but I hope that this submission has made it clear that fire investigation, amongst other niche disciplines, is not a commercially viable prospect for a private company. I believe that those areas that are not commercially viable, but are essential to the criminal justice system and need to be maintained at a high level of expertise and quality, should be provided as a service supplied and maintained by a central body overseen by the government.

So far as they are known, are the arrangements for closing down the Forensic Science Service, making staff redundant and selling its assets adequate?

13. Currently there is very little known and as such it is not possible to comment on whether or not they are adequate. Though, bearing in mind that there is no information surrounding the exit strategy and the terms for staff, I believe that the given timeframe for an orderly exit is beginning to seem short.

Emma Wilson

12 February 2011

Written evidence submitted by S. Hearsum (FSS 54)

I am writing regarding the closure of the Forensic Science Service Ltd (GovCo) that was announced on 14 December 2010, as per the Parliamentary inquiry.

1. *Impact of future development.* If the Forensic science in this country is to be regarded as a commercial concern I am at a loss to see who will be prepared to develop any new techniques. Each time an idea is introduced to prevent crime criminals always find a route around it, so with no advances and reduced services this will only be of benefit to the criminal world! Forensic Science is not profit making.

In recent years other forensic suppliers have undercut the FSS prices each time work was tendered for. If the Service is closed and there is an open market inevitably prices will increase, whilst Police budgets are being reduced I can only see there will be an anarchical society developing in this country.

2. *Implications of quality and impartiality.* To repeat that science is not suited to a profit making organisation. Time is needed to produce quality work, and historically the FSS have proven that they provide quality and impartiality having solved many major crimes. Their excellent reputation is universal.

3. *Financial position.* Although the FSS have been making a substantial loss each month it is also in the process of a transition programme to reduce costs, by closing two laboratories and introducing more modern methods, such as bar-coding and e-cases. It seems a very quick and short sighted decision to close the Service, without giving time to consider the consequences or see if the transition would succeed to reduce costs.

4. *State/prospects of the Forensic Market and ability to carry out work currently done by the FSS.* Currently the FSS is the biggest forensic supplier, handling a very large volume of criminal, and some non-police cases, a demand which I sincerely believe the other forensic suppliers would not be able to cope with. Until recently one Police Force had been giving the work they could not handle to the FSS, because of the amount they received. Although I understand that the Police budgets are going to be cut by more than a third, which only makes one think that anarchy will reign. As with many of the government cuts, in the 21st century we are regressing rather than progressing!

5. *Alternatives to winding down.* I feel there should be a chance to downsize the Service to become a smaller organisation, with the opportunity for those that wish to take redundancy to do so. Also to publicise the availability of the FSS to any public spirited benefactor, who may wish to purchase it, or could it be a part of the CPS? Would this be ethical, and impartial?

6. *Arrangements for closure.* As of today's date the staff know very little of what their fate is. The majority have no idea of the final date, nor what redundancy deal will be available. I would like to know who will be storing the records? ie Major crime case files are currently kept for 40 years, and the FSS are regularly contacted by police forces for information regarding cold cases. Will a commercial concern wish to carry out this service? Will the CPS take over this role?

Declared interest: I am an employee at the FSS with (virtually) 10 years service. I can see what a tremendous loss of expertise is going to occur and know that many police officers agree with this view. The staff are not particularly well paid, but are conscientious with a good team work ethos.

I am a mature employee. I cannot imagine that anyone will wish to employ me in this current market, with so many people available with much higher qualifications than my outdated ones! I have worked continuously all my life and now feel inadequate as it is doubtful that I'll be able to provide for myself for the next year or two.

I have also volunteered to help at the 2012 Olympics, which I will now only be able to do if my travel expenses are paid and I now regret having always voted Conservative/or Lib Dem.

S. Hearsom

12 February 2011

Written evidence submitted by Lisa Webb-Salter (FSS 55)

DECLARATION OF INTERESTS

1.1 I am currently an employee of the Forensic Science Service (FSS), and this is my personal submission to the Science and Technology Committee inquiry examining the winding-down of the FSS.

2. BACKGROUND

2.1 I joined the Metropolitan Police Forensic Science Laboratory (MPFSL) at 109, Lambeth Road in 1991, and have worked there for nearly 20 years. During that time, the MPFSL was merged with the other Home Office forensic science laboratories to become part of the FSS in 1996, and the FSS became a Government Owned Company (GovCo) in 2005.

2.2 My husband, Martin Webb-Salter, also worked as a forensic scientist in the same building for 35 years, but his role was made redundant as part of the recent Transformation programme. As a consequence he left the organisation in March 2010. His unique knowledge and experience in the field of textile fibres analysis has been lost to the forensic marketplace, as he has been unable to find alternative employment and has now been out of work for nearly a year.

3. ToR 1—*What will be the impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?*

3.1 Closing the FSS will have a devastating impact on the provision of forensic science in the UK. Experts in a wide variety of forensic disciplines who currently work together within a single organisation will be dispersed amongst several commercial providers and police forces or will exit the forensic community entirely.

3.2 Dispersal of forensic scientists between different service providers will lead to the reduced sharing of information and divergence of scientific methods.

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3.3 Losing experienced scientists from the forensic community will weaken the provision of forensic science in the UK, and will lead to a reduced transfer of skills and knowledge to the next generation of forensic scientists.

3.4 Closing the FSS is also likely to lead to the loss of some crucial types of forensic examination. Expensive types of analysis where there is little profit margin are unlikely to be maintained by commercial providers. One possible example of this could be textile fibres analysis. This type of analysis is not generally used in routine cases where DNA evidence is available as it is time consuming and therefore expensive. However, it has provided crucial evidence in serious cases such as the murder of Sarah Payne in Sussex in December 2001 and the murder of Holly Wells and Jessica Chapman in Soham in August 2002. An increased number of cases will remain unsolved if the range of forensic examinations available is reduced.

3.5 The FSS carries out cutting edge forensic research and development. Examples of its contribution include the development of forensic DNA profiling and the establishment of the first National DNA Database. This development would not have been possible if the UK had been reliant on commercial companies to provide forensic services. Commercial forensic providers and police forces do not have the resources to carry out forensic research. Closure of the FSS will mean that future forensic development in the UK will be significantly reduced.

3.6 Forensic science research and development requires investment and needs to be at the heart of forensic science providers. Any attempt to develop this function separately in a University or other organisation will fail, as development of this applied science needs to be carried out in close partnership with practitioners to ensure it meets the needs of the UK Criminal Justice System (CJS).

3.7 The impact of the closure of the FSS will be felt far more widely than the UK CJS. Whilst working for the FSS I have delivered forensic science development projects in Kuwait, Trinidad and Tobago, and Abu Dhabi. I have also worked in partnership with Michigan State Police in America. I have seen first hand the need to share our forensic expertise with other countries to maximise the contribution forensic science can make to the administration of justice around the world. Helping other countries prevent and detect organized crime and terrorism plays an important part in protecting our own National security.

3.8 The FSS has worked with a number of countries in Europe and the rest of the world to improve the provision of forensic examinations. Collaborations between the FSS and overseas Governments has helped identify genuine Kuwaiti Nationals exiled from their country during the first Gulf War, increased the capability of the Trinidad and Tobago Forensic Science Centre to process murder cases involving Firearms and implemented a quality management system for the Abu Dhabi Police that achieved ISO 17025 accreditation by the United Kingdom Accreditation Service (UKAS). If the FSS is closed, there will be no equivalent organisation that can provide this level of international support and consultancy.

3.9 Many leading scientists from around the world have expressed their concerns about the impact of closing the FSS on forensic science, and I commend you to read their published opinions on this issue.^{1,2 and 3}

4. ToR 2—What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

4.1 The motive behind the MPFSL merging with the rest of the FSS in 1996 was to create a single service provider that would offer consistent, best-practice delivery of forensic science to all the police forces in England and Wales.

4.2 The merger allowed the sharing of best practice between scientists from all around the country, leading to increased quality and sensitivity of forensic techniques. The consistency and quality of the work carried out by the FSS is evidenced by the entire organisation being awarded ISO 17025 accreditation by UKAS.

4.3 The current Government's plans to break up the FSS will have the opposite effect to the merger. The provision of forensic science will become fragmented across a number of different service providers, all operating different methods and having different quality standards. Ultimately, this will lead to a "post-code lottery" in terms of the amount and quality of forensic examination that a case receives. It will also cost more in the long-term, as it will involve duplication of equipment and laboratory facilities.

4.4 Plans to break up the FSS will inevitably lead to cases being examined by non-accredited forensic science providers and non-accredited police forces. This will pose a serious risk that a miscarriage of justice will occur through the use of poorly maintained equipment, a lack of adherence to anti-contamination procedures, the use of un-validated scientific methods or inadequate staff training. This risk is recognized by the European Union and this is reflected in the EU framework decision on the mandatory accreditation of DNA and fingerprint activities⁴.

4.5 The FSS currently offers a wide variety of types of forensic examination. Having all these services within the same organisation makes it easy for the different experts carrying out different types of analysis on a case to work together, share information, and ensure examinations are carried out in an order and manner that does not compromise other evidence types. Most police forces and commercial providers will offer a more limited range of services, and commercial constraints will limit their ability to cooperate with each other

during their examinations. This in turn will have a negative impact on the quality and completeness of the evidence gathered.

4.6 Winding down the FSS is likely to mean that several different providers will carry out examinations on an individual case. As a result none of the scientists involved will have an overview of the entire case, and the forensic evidence will be reported in separate pieces. This will make it more difficult for the court to understand the overall significance of the results, increasing the potential for confusion and misinterpretation of the evidence.

4.7 FSS scientists are not employed by the police and carry out their examinations with complete impartiality, providing their expertise to both the Prosecution and the Defence. It will be a huge backward step in the integrity of our Criminal Justice System if police forces investigating a crime also make decisions on what examinations are carried out and then carry out those examinations in house. The quality and completeness of the results obtained is likely to be reduced and challenged heavily in court.

4.8 It could take several years for the impact of the closure of the FSS on the quality and impartiality of forensic science to become visible. By the time this happens, it will be too late to reconstruct the centre of excellence that currently exists in the FSS in terms of both facilities and scientific expertise

5. ToR 3—*What is the financial position of the Forensic Science Service?*

5.1 In the Government statement published on the 14 December it was stated that the “FSS is currently making operating losses of around £2 million per month”. I am not in a position to comment on the accuracy of these figures, but the overall presentation of this situation is fundamentally flawed and needs to be challenged.

5.2 I believe that the vast majority of people in our society accept that we need a police force to keep law and order in our country, and that there is a cost in providing this enforcement of the law. The cost of providing a police force would never be described in terms such as “The Metropolitan Police is currently making operating losses of around £x million a month”.

5.3 Forensic science is a key tool in the investigation of crime, and a fundamental part of our CJS. Why should it be considered in such different terms? The provision of forensic science should be run as effectively and efficiently as possible, but ultimately it is a service. It is not realistic to expect to provide a quality service that can be responsive to a fluctuating demand profile and also maintain scientific research and development at zero cost or to make a profit.

5.4 The current financial position of the FSS is a direct result of the recent cuts made to police budgets. I understand that all forensic science providers have experienced a drop in submissions of approx. 20% as a result of these cuts. Responding to this situation with a knee-jerk reaction to wind-down the FSS is not the right answer.

5.5 We need to understand the size and nature of the forensic market before deciding how best to service the demand. A review of the market should be carried out first, and decisions should only be made about the structure and capacity of service providers once the market is fully understood.

6. ToR 4—*What is the state of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the Forensic Science Service and the volume and nature of the forensic work carried out by police forces?*

6.1 I am not in a position to comment on whether the private sector has the capacity to carry out the work currently done by the FSS. However, an important consideration here is that some types of forensic examination are commercially less attractive than others.

6.2 Market forces have driven costs below the break-even point for some types of forensic examination, and no commercial company is going to want to take on work that does not give a return on investment.

6.3 As a result, the closure of the FSS is likely to bring about two possible outcomes. Either, some services will be discontinued, or, the customer (and ultimately the tax payer) will have to pay an increased price for those services.

6.4 If some types of forensic examination are discontinued, there will inevitably be cases that remain undetected because that examination was not carried out.

6.5 If prices rise, this will have the same impact as the recent Government spending cuts. Fewer cases will be submitted for forensic examination, and consequently some cases will remain undetected because an examination was not carried out.

6.6 If police forces decide to carry out the work currently done by the FSS themselves, this raises a number of quality concerns covered in paragraph 4.4 of this submission. It will also cost more in the long-term, as it will involve duplication of equipment and laboratory facilities.

6.7 The overall impact of transferring the work currently carried out by the FSS to the private sector and/or police forces is therefore likely to be reduced availability of forensic services and higher costs, both of which will lead to fewer criminal detections.

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7. ToR 5—*What are the alternatives to winding-down the Forensic Science Service?*

7.1 It is clear that the current forensic market place is not working, however this is a complex situation and there are many alternatives to the current proposal to wind down the FSS.

7.2 As the Government has indicated that as much of the FSS assets as possible will be sold, it is implied that some of the equipment, facilities and staff will continue to contribute to the UK CJS. If this is the case, one alternative to the closure of the FSS would be to maintain it, potentially with a smaller headcount than it currently has.

7.3 We need to understand the size and nature of the forensic market before deciding how best to service the demand. A review of the market should be carried out first, and decisions should only be made about the structure and capacity of service providers once the market is understood.

8. ToR 6—*So far as they are known, are the arrangements for closing down the Forensic Science Service, making staff redundant and selling its assets adequate?*

8.1 The Government announced its decision to wind down the FSS with no plan of how this would be achieved. It therefore appears that this decision has been made on purely financial grounds, and the consequences and impacts of this decision on the administration of justice have not been thought through. The arrangements for closing down the FSS are still not defined even in outline, two months after the announcement was made.

8.2 A Transition Board has been set up with responsibility for deciding how the FSS will be closed. The terms of reference of this Board are to manage an orderly exit of the FSS at minimum cost to the tax payer. These terms of reference are short-term and do not take into account the long-term impact and cost of closing this world-renowned national organisation.

8.3 The most valuable asset of the FSS is its staff—their skills and knowledge, their commitment and dedication, and their passion for justice. It is likely that some of these staff will be forcibly transferred to other forensic providers under TUPE when work currently carried out by the FSS is divided up.

8.4 A recent example of this occurred when the Metropolitan Police (MPS) drugs contract was awarded to LGC at the end of 2010. Approximately 20 FSS staff based at the London laboratory were transferred with this contract against their wishes, and the end result was that they were all made redundant. These staff, some of whom had given their entire working lives to forensic science, were effectively discarded, and consequently their wealth of skills, knowledge and experience have been lost to the forensic market place and the service of this country. This scenario is likely to be repeated many times over when the work currently carried out by the FSS moves to other providers. This will be at immense personal cost to the individuals involved, and significant financial cost to the tax payer.

8.5 It is inevitable that those FSS staff who are not transferred to other providers under TUPE will be made redundant. After making the announcement that the FSS would be closing, the Home Office then revealed their intention to renegotiate staff redundancy terms before this takes place. The FSS senior management team is currently in negotiation with the Home Office on this issue, but there is still no information available on this and no arrangements in place. Any proposed change in terms should not be allowed to proceed.

8.6 Several hundred FSS staff were made redundant as a result of the recent closure of the Priory House, Chepstow and Chorley laboratories, and these staff have all left or are currently leaving with the original redundancy package. It is therefore highly insulting and unfair that the staff who remain could now be made redundant under reduced terms. Their rights should be protected.

9. CONCLUSION

9.1 To date there has been no inquiry or review on whether closing the FSS is a sensible or feasible course of action, and the wide-ranging impacts of its closure have not been considered. I therefore welcome the Science and Technology Committee inquiry, and hope that my submission and many others will provide the evidence the Committee needs to lobby for a Parliamentary debate on this important issue.

Lisa Webb-Salter

11 February 2011

REFERENCES

¹ “Closure of Forensic Science service puts Justice at Risk” Professor Niels Morling—President of International Society for Forensic Genetics (ISFG) *et al*, Letter to *The Times*, 28 December 2010

² Letter to the Right Honourable The Secretary of State for the Home Department, Joseph P Bono—President of the American Academy of Forensic Sciences, 4 January 2011.

³ The Demise of the United Kingdom's Forensic Science service (FSS): Loss of world-leading engine of innovation and development in the forensic sciences, Bruce Budowle et al, Investigative Genetics 2011, 2:3 (1 February 2011) and accessible at www.investigativegenetics.com

⁴ COUNCIL FRAMEWORK DECISION 2009/905/JHA on Accreditation of forensic service providers carrying out laboratory activities, 30 November 2009

Written evidence submitted by Dr S R Baker (FSS 56)

DECLARATION OF INTEREST

I am a current employee of the Forensic Science Service Ltd, formerly as an operational forensic scientist, and latterly concerned with Information Management and IT systems & strategy and have over 30 years experience working with forensic scientists in the UK Criminal Justice System.

Irrespective of my personal interest in the outcomes of the inquiry, as a citizen of the UK I have a wider concern that the announcement was made *without consultation* or a full analysis of the impacts that sole reliance on the private sector to deliver forensic science services in England & Wales may have on the wider Criminal Justice System.

As a citizen I expect a transparent, cost-effective and high quality criminal justice system with equal access to high integrity forensic science should I unfortunately become the victims of crime or am wrongly accused. I recognise that reform is needed; forensic science and the CJS have to evolve to counter emerging threats and capitalise on new technologies. The need for change is not questioned, but it must be beneficial.

I believe it is vital to find a positive way forward that maintains the UK's leadership in forensic research, its international status in forensic matters and continues to provide the consistent coordinated and coherent scientific investigation of crime that the UK Public expects, wherever they live, accepting that in the future this may be under a different guise than now.

The seventh report of the Parliamentary Select Committee on Science & Technology³¹ recognised that

"Forensic science is a vital instrument for the detection of crime and the administration of justice. The Forensic Science Service (FSS) plays a critical role in the delivery of forensic services to the criminal justice system and has established itself as a world leader in forensic science".

While mindful of the Government's imperative to reduce the financial deficit, the Prime Minister has argued that while public services reform is necessary "*our first priority is to protect front line services and to protect jobs in the public services*".³² That reform must not impact upon the provision of essential services was reiterated in the Minister's statement of 14 December 2010 seeking to ensure that the closure;

"does not impact on police service customers or the wider Criminal Justice System".

1. THE DEVELOPMENT OF FORENSIC SCIENCE IN THE UK (ToR1)

The Research & Development (R&D) undertaken by the FSS has delivered tools that advanced the capability of both forensic science and the wider Criminal Justice System (CJS), including the world's first National DNA Database and pioneering every development in forensic DNA capability for more than 20 years.

1.1 Forensic R&D is at risk because in recent years Police contracts have focussed overwhelmingly on the cheapest price, squeezing providers' operating profits. Although there are a few companies that are research led, the entry of new providers into an ever more competitive market will continue to drive down the prices of commoditised forensic offerings, leaving no margin for, and giving no incentive to, commercial companies to invest in R&D.

1.2 Quality and standards of service may be at risk in a fiercely competitive market as suppliers may be tempted to reduce or shortcut these to retain business. This short-term focus will be at the expense of the longer term developments necessary to maintain healthy and robust forensic provision.

1.3 In the USA where commercial laboratories have been established the longest: it is still recognised that the long-term health and viability of their justice system relies on state-owned provision to cover complex and financially unattractive elements of forensic science that commercial companies do not provide. This includes core R&D, the creation and maintenance of forensic databases and the development of standards, all of which are provided by centrally funded Federal Laboratories and Agencies.

1.4 There should be real concern over the future of Forensic R&D. The FSS has been the key provider of forensic R&D in the UK, and a major contributor to forensic science globally. It has developed and improved standards for forensic science worldwide and it is to the benefit of the UK CJS and our international reputation that this work continues. Currently no other UK organisation has the remit or capability to do this; the research councils don't fund forensic research, stating it should be directly funded by government; university departments lack experience of taking a concept through to a rugged and validated process that can withstand

³¹ Select Committee on Science and Technology Seventh Report 29 March 2005

³² David Cameron | Speech on public service reform | 17 January 2011

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scrutiny under our adversarial judicial process; and there is no government research capability in this area, the closest being the Home Office Centre for Applied Science and Technology (HOCASST) which does not have DNA development capability or experience.

1.5 Units established in police forces to in-source work lack both the necessary environment and the critical mass of research staff to undertake substantial research projects. Currently virtually no forensic work, and none of the limited forensic research done by police forces is accredited to recognised quality standards (ISO17025 and 17020). Such forensic research within police forces is likely to be to a lower quality standard and this will take longer than March 2012 to rectify. This increases the risk of both miscarriages of justice and of forensic evidence being successfully challenged in the courts where the validity of scientific techniques is being ever more vigorously scrutinised.

1.6 Decisive early action is required if highly skilled researchers, are not to be lost in the current climate of uncertainty. Much of their work benefits forensic science not just the FSS and if made generally available rather than being constrained by commercial and political considerations could improve the quality and efficiency of forensic science nationally and increase resilience to challenge within the Courts. This approach is well-established practice in the USA by the FBI.

1.7 Placing forensic R&D within central Government allows synergies with other central scientific units to be exploited. The expertise the FSS has in DNA analysis, software development and its statistical capabilities could complement units such as HOCASST. Similarly, alignment with the National DNA Database could provide the vision, technical knowledge and skills to re-energise this national facility back into the world-leading service it was before the link to R&D was severed because of the need for it to be separated from any commercial provider.

Impacts on Britain's Leadership and Reputation

1.8 Organised crime and terrorism recognises no national barriers and both forensic intelligence and investigations (through operational capacity) need to collaborate internationally to be effective against these threats. It is unknown to what extent foreign intelligence or investigation agencies will be prepared to collaborate with non-governmental, commercial providers in the UK, damaging this country's ability to counter these threats.

1.9 The UK's leading status in forensic research, via the FSS, has been recognised by over 30 internationally respected scientists in a jointly published letter in the Times on 28 December 2010. This highlighted the consequences not only for the UK CJS, but also the negative impact that will be felt internationally if this forensic R&D capability is lost.

1.10 The UK has provided forensic expertise around the world in the wake of natural disasters, terrorism and wars, such as identifying bodies in mass graves or from body parts. How is this valued service to be sustained from the private sector?

1.11 The FSS has been a major contributor to International Forensic Science and scientific standards through its participation with the European Network of Forensic Science Institutes (ENFSI) and collaboration in international research projects. The closure will undoubtedly lessen the UK's influence on the development of forensic science internationally and will damage its reputation.

1.12 The FSS has assisted a number of friendly nations to establish or improve their own forensic capability, with contracts to develop or provide services. These international relationships are jeopardised by the closure announcement which must surely damage the UK's reputation and standing with these nations.

2. THE QUALITY AND IMPARTIALITY OF FORENSIC EVIDENCE (ToR2)

The intention to rely on a variety of private sector companies, or the "in-sourcing" of forensic science by various police forces, serves only to further fragment the provision of forensic science to the Criminal Justice System (CJS). Specifically;

2.1 Few private sector suppliers, or indeed police forces are equipped to provide, what might be termed "full service" forensic science; the experience and skills necessary to scientifically investigate complex crimes. While screening and testing can be "productised", considerable experience is required to collate disparate evidence and interpret complex scenarios.

2.2 Many commercial providers offer only a limited range of services, such as DNA or similar match testing, as a simple product without necessarily interpreting the result in the context of the crime or of wider knowledge. "Commoditised" or piece-work testing is, of course, more profitable.

2.3 The stated intention "to maximise the level of competition in the Market"³³ or replicating forensic science in-house for each police force, whether it is "full-service" or of limited scope, will inevitably result in a greater number of parties being involved in the delivery of forensic science.

³³ James Brokenshire MP statement to the House of Commons 14 December 2010

Whether forensic scientific is provided by private companies or individual police forces, an increasing number of organisations, units or companies will be involved in the scientific investigation of a crime. This proliferation and fragmentation of service provision is a major concern, both in the scientific investigation of a single crime and the implications for crime detection in general:

2.4 It will become increasingly complex to collate the scientific findings within a case when these have been generated by a number of different providers.

2.5 Links and connections between exhibits, or the findings adduced from them, could be overlooked or missed because they have been examined by different parties.

2.6 No single forensic scientist will necessarily be responsible for, or have a holistic view of, the case and the scientific evidence unless this responsibility is developed elsewhere in the CJS

2.7 The Courts could encounter a procession of expert witnesses, or expert statements within a single case, from a variety of providers, increasing the time and cost of court proceedings.

2.8 Our adversarial system allows each side to present their own expert witnesses or statements, however, the concern described in Point 2.7 is exacerbated if each side also uses separate providers for different aspects of the case.

2.9 The coherence of the scientific evidence, and therefore the comprehension by Magistrates, Judges, Juries and the Public may be adversely affected as a consequence of it being presented by such a proliferation of expert witnesses.

Besides the issues of coordination within a single case, the fragmentation of scientific investigations arising from a much larger number of commercial or police forensic science providers raises more general concerns for sharing forensic information across the CJS:

2.10 There is no obligation, commercial imperative or framework for private sector companies to collect or share forensic information between each other or within the CJS other than in the context of a single case when expert evidence is presented to the courts.

2.11 Most commercial providers do not have a national coverage, making it difficult for findings to be considered in a wider (national) context—eg to identify similarities with other exhibits or cases examined by providers, in other areas, compromising the ability to link “cross-border” or “out-of-area” crimes series.

2.12 The Bichard Inquiry³⁴ improved Information sharing between police forces but its focus was child protection, not forensic science intelligence. It is an unanswered question as to whether an effective model and process for sharing forensic science intelligence nationally could be achieved by March 2012.

2.13 The solely commercial delivery of forensic science will lead to a range of providers, some specialist (niche) companies, some more generalist, but each with a different scope and geographical coverage. This will give rise to disparities in the forensic science services available to different Police Forces and thus to the CJS and Public resulting in a potential “post code lottery” for the scientific investigation of crime on behalf of the citizen.

2.14 The proposed in-sourcing of forensic services into police forces could compromise the transparency and perceived independence of forensic science investigations leading to increasing numbers of challenges to the integrity of scientific evidence in the Courts.

The proliferation of forensic science providers and the fragmentation of the scientific investigation of crime impacts upon the wider CJS in a number of ways:

- More time and cost to prosecute cases through the Courts.
- Lack of a holistic overview of the scientific evidence.
- Potential to miss links between different types of evidence.
- Compromise the sharing of forensic intelligence—fragmentation.
- Reduce the ability to link cross-border or out-of-area crimes.
- Reduced capability to understand the “epidemiology” of crime.
- Lead to a non-uniform approach to the scientific investigation of crime in different parts of England & Wales.

3. THE STATE AND PROSPECTS FOR A FORENSICS MARKET (ToR4)

The Government’s drive to reduce the national debt and the focus on “operating costs” is understandable but the risks of a market model must be fully understood.

3.1 While commercialising some simple commoditised forensic services such as the analysis of DNA reference samples has worked successfully, improving the service to the police, without unduly affecting the quality provided standards are rigorously enforced and monitored. However, this does not necessarily hold true

³⁴ Report of the Bichard Inquiry 22 June 2004 (<http://www.bichardinquiry.org.uk/10663/report.pdf>)

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for more complex forensic work, and certain core non-fee earning capabilities need to be retained if forensic capability and development in the UK is not to be damaged in the long term.

3.2 In a purely commercial market what assurance does the public have that forensic investigations are not unnecessarily limited simply by the contracts or service level agreements negotiated by the police with commercial providers, rather than what should be done in the context of the case and in the pursuit of Justice?

3.3 With a variety of contracts and service levels between police forces and different providers across the country, how will the Home Office ensure that the Public receives consistent, impartial and comprehensive access to forensic investigation and interpretation, irrespective of where a person lives or where the crime is committed?

3.4 In the current financial situation police forces are facing funding cuts and consequently any forensic market is vulnerable given the limited number of customers. What contingences exist if the UK market fails because commercial providers leave, or focus services abroad, for reasons of profitability?

3.5 What evidence is there that commercial providers have the capacity to meet UK forensic demand within the time scale of the announced closure, given that the FSS market share was approx. 60%? How vulnerable would the supply of forensic services to UK police forces be to the exit of another major provider?

3.6 What assurance does the Government have that the capacity and capability for a coordinated response could be provided by the private sector in the event of a national emergency or terrorist outrage?

3.7 What is the cost benefit case for in-sourcing duplicated forensic services into a number of police forces given the current financial position? This replication negates any economies of scale and could engender different standards from force to force.

3.8 An undoubted success of new DNA technologies has been "Cold Case" reviews, only possibly because of the (unprofitable) retention of recovered materials and biological samples. Will unsolved crimes still be able to be re-investigated if a suspect is identified in the future? Will the private sector be mandated to sustain this?

3.9 The commercial model for forensic science provision has created operational and political barriers that make bringing forensic innovation into the CJS difficult. Real collaboration, alignment and integration of objectives between police, forensic science providers and the CPS is hampered by commercial factors that create counter-productive barriers with other parts of the CJS. How does the Government intend to resolve this?

Dr Steven R Baker

13 February 2011

Written evidence submitted by Colin Osmond (FSS 57)**DECLARATION OF INTEREST**

1. I am a forensic scientist currently employed by the Forensic Science Service at their London laboratory. My interest is in ensuring that the Criminal Justice System continues to get impartial forensic evidence of a high quality and standard. This is a personal submission, and I am acting in a private capacity. The views detailed within this document do not necessarily reflect the views of the Forensic Science Service.

What will be the impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?

2. The Forensic Science Service is responsible for the majority of the innovations within the field of forensic science not just in the UK, but world-wide. Without the input of the Forensic Science Service many innovations, particularly those in the analysis of bodyfluids and DNA profiles, would not currently exist.

3. There has been little or no innovation from the private sector into the development of forensic science. Research and development cost money, and not all techniques and processes that are looked into will yield financially viable products for a private firm. Without any established research, there is unlikely to be any future development of forensic science, except for any that has currently been completed by the Forensic Science Service but is not yet available to any of the privately owned providers.

4. Without any financial incentive, privately owned companies are unlikely to continue to develop any processes to assist in any criminal investigations. This will lead to a stagnation of the knowledge of forensic science in this country. Other countries, that have their own state owned forensics provider, could then become more internationally renowned, and the UK would lose its current standing at the forefront of forensic science.

5. The majority of staff at the leading private sector forensic providers were originally employed by the Forensic Science Service and would have received the majority of their training there. Without the Forensic Science Service providing training of staff or research and development expertise, the private sector would have to increase their prices to cover this cost if they were to be expected to undertake this work. This would then be detrimental to the police forces as it would lead to an increase in costs.

What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

6. Police forces nationwide have already been undertaking forensics work with their own in-house facilities. Some of the individuals within these facilities do not have the long standing training or forensic knowledge that is provided by the Forensic Science Service (and to a lesser degree the privately owned forensic providers). A list of potentially serious cases was provided to the Forensic Regulator by the Association of Forensic Science Providers. However, it appears that the Forensic Regulator has done little to address these other than to pass the list onto the relevant police forces. I understand that a copy of this report was passed to the Home Office, and it should be looked into to see the potential issues that could arise.

7. The tests and methods used by the in-house police facilities do not match up to the high standards of those used by the Forensic Science Service and the other privately owned Forensic providers. From my own experience, the test used by the police for the detection of blood is very inefficient. Their test frequently indicates substances as being blood staining, when they are not. The lack of specificity of the method used by the internal police laboratories is why it is not used by any of the main Forensic providers. There is also documentation to suggest that this test can inhibit DNA profiling. All of this could mean that blood is indicated on an individuals clothing when in fact there is none, or that if blood is present it will not be possible to obtain a DNA profile to assist in solving a particular case.

8. By moving more examination and analysis in-house, there will obviously be claims of a lack of impartiality in any investigation. Although it is unlikely that there would be any deliberate planting of evidence, a defence solicitor or barrister could use this implication to put the element of doubt in a jury's mind and thereby lead to failings for the criminal justice service.

What is the financial position of the Forensic Science Service?

9. I have no intimate knowledge of the financial position of the Forensic Science Service, although I am aware of some of the changes that the company has currently been going through.

10. Although the Forensic Science Service has currently been running at a loss, it has been undergoing a large scale restructuring programme. As part of this staff at some laboratories have been made redundant. During this restructuring a number of facilities were closed down. However, until a laboratory is fully wound down and all equipment and retained materials safely transferred, a number of the staff had to be kept on. This would therefore lead to them being included in the head count of the forensic science service and being on the payroll, without necessarily bringing in any revenue. It is likely that this would lead to some losses in the financial position.

11. As part of the restructuring, all of the forensic scientists employed at the Forensic Science Service underwent training in the use of new products and methods of undertaking forensics work. This led to a significant amount of time being dedicated to training of those staff in these new processes. While undergoing this training these staff would not have been able to undertake any "production" work and thereby bring any revenue in. If the restructuring had been allowed to continue and the new training been given time to bed in, then it is likely that the Forensic Science Service would have been able to obtain a better financial position.

What is the state of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the Forensic Science Service and the volume and nature of the forensic work carried out by police forces?

12. The current forensics market in the UK does not work and is not fit for purpose. This can easily be seen by the current situation of the Forensic Science Service. Any market where your customer is also your competitor will not be a successful market in the long run. The customer will take more and more work on themselves to lower their costs, which would lead to a smaller and smaller market which would eventually fail.

13. The vast majority of work (50–60%) is still undertaken by the Forensic Science Service. The current private sector forensic providers do not have the physical room, or the staffing levels to be able to undertake all of the work currently completed by the Forensic Science Service. Without massive investment in infrastructure and staffing levels, they would be unable to cope with the additional work that is required of them.

14. There have been some reports that in certain areas the current private sector forensic laboratories are unable to keep up with the work that they already have. My understanding is that one of the private sector laboratories is already significantly behind in the drugs analysis work that they have agreed to undertake for the Metropolitan Police.

15. More work is being undertaken by police force in-house laboratories. However, these are not up to the same standards as the Forensic Science Service or the other private sector forensic laboratories. My understanding is that only one of these police laboratories has the external International Organisation for Standardisation (ISO) accreditation that is required by the Forensic Science Service and private sector laboratories.

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What are the alternatives to winding-down the Forensic Science Service?

16. The alternative that is most likely to succeed in the long term would be to re-structure and re-define what is thought of as the Forensics market in the UK. By ensuring that a set minimum amount of work is available it would allow all external Forensic providers to understand the size and nature of the market that they are entering. This could be achieved by limiting the amount of work the police can undertake in-house. Without this knowledge, and in the current financial climate, it is not possible to determine to what size the UK Forensics market could shrink to. This would mean it is unlikely that any additional external providers would enter into the UK Forensics market to take up the work currently undertaken by the Forensic Science Service.

17. In my opinion, the best alternative would be to ensure that the UK Forensics market is of a set minimum size, and to reward innovation and research within it. This would allow all organisations to determine that they are of the correct size, and to understand what work they could be able to undertake. By undertaking this alternative and defining what is understood by the UK Forensics market, it may be possible to save the Forensic Science Service with only a minimal loss of jobs and experience. This would be beneficial to the Criminal Justice System and to the police forces.

So far as they are known, are the arrangements for closing down the Forensic Science Service, making staff redundant and selling its assets adequate?

18. As there has currently been no official arrangements announced, other than that the Forensic Science Service is to be wound down, the current arrangements do not appear to be adequate. The current arrangements seem to assume that private sector employers will pick up the work and some of the staff. However, the current private sector Forensic providers all have their main operations based in Oxford. Given the spread of sites for the Forensic Science Service around the country, it is inevitable that staff from those sites will not all want to move to where the existing private sector sites are. This will lead to a loss of skills and experience. The skill and experience of the individuals is the key asset to any Forensic Science provider.

SUMMARY

19. As the arrangements do not appear to be adequate, and given the likely loss of quality, impartiality and future development within the forensics market in the UK, the winding-down of the Forensic Science Service would have potentially disastrous consequences for the Criminal Justice System.

Colin Osmond

13 February 2011

Written evidence submitted by Ian Parkinson (FSS 58)

1. The announcement that public service is no part of the provision of forensic science is in my view deeply flawed. The closure of the FSS would be, in my opinion, the loss of a valuable national asset, being a single, near-comprehensive national entity in the public sector, independent of the police with a proven track record.

2. The future shape of forensic provision is unknown and therefore both untested and uncosted. The most likely looks like private provision split up between screening and some preliminary testing in-force and analysis and detailed examination separated across a number of private suppliers depending on who can give the lowest price for each element.

3. In my judgement, too simplistic view has been taken of the nature of forensic science and it should not be viewed as simply small parcels of work or "tests". Interpretation relies of case scenario, questions to be addressed and knowledge of the evidential materials and the whole case in context with other factors, and crucially the overall strategy and interconnection between the constituent parts of the case; to look at a test result in isolation can be misleading.

4. Forensic science should be viewed as important and part of the core, essential infrastructure of both criminal investigation and criminal justice system having its own voice at central government level.

5. FSS is admired and thought of as the gold standard amongst worldwide profession. Fellow professionals around the world find it absolutely incredible that the Government should be deliberately dismantling what they aspire to reach. No country outside the UK has contemplated a move from publically funded and provided, and I have been informed one (Canada) has made active decisions against a forensic market, influenced by UK experience. Even Scotland and Northern Ireland are continuing as public bodies, with no plans to alter that. Experience in US where forensic provision is predominantly local a number of problems of quality have occurred and no real R & D has taken place. US has recently published the report *Strengthening Forensic Science in the United States* recommending setting up a National Institute of Forensic Science; moving in the opposite direction.

6. FSS as an independent national service in the public sector has as its *primary* objective optimum forensic science as opposed to private suppliers which by definition are profit-driven, only accountable to shareholders with no public interest obligations.

7. With a purely private sector, there can be no guarantee of continuance of provision as a whole or of any specific service and no provider-of-last-resort. There are risks of:

- suppliers all or nearly all exiting the market because of poor profitability or failing financially leaving no services remaining or a private monopoly; and
- the coverage being restricted to high profit work, but low- or un- profitable work of complex, time consuming nature, however valuable, being not offered or dropped.

8. Accountability to the public via parliament will be lost and Government's ability to influence strategic direction of forensic provision will be extremely limited if not non-existent.

9. FSS as a national service comprises a critical mass to support a skilled and experienced pool of scientists across the range of disciplines in one networked and integrated infrastructure working together. This supports internationally recognized subject specialists comprehensively across the disciplines with real depth of knowledge & expertise of each to support the most challenging cases, guide policy, seek and drive improvements and innovation, responses to stated cases and determine best practice.

10. Small separate suppliers risk being of insufficient size to support real specialists.

11. It is also extremely important for optimum value forensic science that there is a co-ordinated and integrated strategy, appropriately sequenced, often involving different specialisms and with interpretations based on the whole case. The FSS has led with interpretations in context with the case and background information, such as national data & reference collections used to support interpretations. These databases can also be important to provide intelligence information.

12. With different suppliers, work would be split up, making it more difficult in larger cases both practically and with fragmentation of evidence, difficult to draw together.

13. Protection of commercial interests works against co-operation and coherence, and there is a risk of advice differences in strategy between suppliers, and overall an increased likelihood of challenges at court due to a lack of coherence and evidential fragmentation.

14. Different suppliers are not an interconnected network and there is potential for blurred accountability between suppliers and in the event of problems, possible difficulties in establishing what has really gone wrong, and resolving those issues with several suppliers in the chain.

15. FSS offers consistency of application of best-practice, of facilities, equipment architecture, strategy, test selection, data handling, terminology, interpretations and reports.

16. Between different private suppliers, there is no control of disparity between apparently similar services on offer and what is included therein, all aspects of practices, the financial resources, approaches to quality issues (eg checking, establishing reliability), and availability of appropriately skilled personnel affecting capacity to deliver and flexibility to demand fluctuations. There are no mechanisms for determining or transferring best-practices; there is likely to be reluctance to share such information with others who are commercial rivals.

17. With individual private suppliers external oversight becomes important. UKAS accreditation is a requirement for contractors but may be considered limited in its scope because it does not normally stray into vital key elements such as interpretation. The Regulator has a small staff and is not an inspectorate with numbers and to extend or set up a separate one up would be a substantial cost. There is no unified professional body and standardisation of training, qualifications, experience or competency are not set, and no ethical standards which are universally accepted or mandatory.

18. There would be no control if private suppliers because of commercial pressure were tempted to advise, make decisions and choices which may be influenced by available expertise, cost/revenue rather than case needs and if not true *perception* of this is likely to be a phenomenon.

19. I am not aware of existing arrangements so it is unclear if there has been consideration of what obligations are to be placed on private suppliers to ensure storage of records & materials for appropriate time including long term for post-conviction issues and cold cases, or how they could be enforced, including retention arrangements if the supplier was closed down.

20. Important, but expensive and/or infrequently used services can be maintained because the FSS could concentrate such cases and maintain a centre of excellence, mentoring and developing junior staff whereas there would be insufficient demand to keep it going across a number of separate, small private suppliers. This effect can be predicted to worsen by reduced demand causing more evidence types to fall into this category because of police budget cuts raising thresholds for their own and forensic interventions.

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21. The FSS has the ability to deliver a real-time co-ordinated immediate response to exceptional high demand: such as high-profile, serious incidents or national emergency which can only be effectively provided by a large single entity deploying resources with clear goals of public interest.

22. FSS provides a focus for forensic science in the UK; a point of contact with the broader scientific community, academic & scientific bodies and without it UK influence would be reduced with international bodies.

23. The FSS is best placed to handle cold cases with the established specialists of cold case operations and in specific scientific fields, the knowledge base, access to the huge archived records and retained physical material and full historical information about techniques originally employed.

24. The FSS has a track record of quality across work fields with well designed protocols, highly developed training and competency requirements, audits, inspections and extensive proficiency and QA trials, with a commitment to external oversight, whereas against that the participation of private suppliers in these activities would depend on their willingness to be involved and would not be controlled with no requirement, and some may show reluctance to be involved.

25. Reliance on AFSP not safe based on US experience that the equivalent “SWG” group supervision arrangements are not very satisfactory.

26. There is the problem of the continued storage of the very extensive existing FSS records of casefiles (I understand in the millions) and other relevant material such as instrument performance records, which need to be retained and supplied as required for court, other enquiry or appeals, for some years. In addition the retained materials—which are often the only remaining materials—are vital for the continuance of cold case investigations and post-conviction work

27. The FSS has been a proven strategic lead and driver for research, innovation and development, focussed onto investigation and needs of the CJS, rather than having an emphasis on commercial considerations. With diverse private suppliers there would be no lead or strategic direction for R & D and no funding. With individual suppliers insufficiently resourced, it would require co-operation and sharing of sensitive information and would be commercially driven.

28. A separate “research association” body, being remote from operations, would risk not being grounded in front line needs and subject to diverse or conflicting priorities of different suppliers and the testing of developments in the real casework environment is vital to ensure reliability which would be difficult.

29. I understand it is attractive for the police to in-source, which offers full policy control, on cost-saving grounds and also to guarantee continuity of service. However this is most likely preliminary searching and recovery which can compromise important distribution evidence.

30. Compared to insourcing FSS is independent and not part of the law enforcement, and is therefore clearly not part of the prosecution side. This means there is no conflict where evidence supports the defence case, gives credibility and ability to advise from outside the police hierarchy and is also well suited to IPCC & Police professional standards cases.

31. Considerations of police in-sourcing provision are that the requirements for involvement of the Regulator and external oversight or accreditation are not clear.

32. It is likely that there will be variability in policies and disparities of practices, quality standards, reports, facilities, equipment architecture and staffing which may be constrained by severely limited resourcing. Small forces with few or even single scientists could not therefore have scientists who are specialized. There are also risks of inflexibility to demand fluctuations and of staff used for inappropriate work outside their expertise or junior staff working on case which are too complex.

33. Working directly for the police it is likely to be more difficult to maintain impartiality and more difficult to be *seen* to be impartial by the CJS.

34. There are some forensic scientists at the top of their game who feel strongly that it is not appropriate that profit should be the primary motive in a field like forensic science, and who are not happy to continue in the profession in private sector and do not wish to work for the police directly because of the risk of being pressured compromising impartiality.

35. The FSS cost-cutting Transformation programme has not been given a chance. I understand this was on track to have been back on a balance between cost and revenue had demand not reduced. The Transformation savings must be substantial as some 750 staff made redundant plus saving of estate costs of three sites, and although I have no figures, must be a six-figure sum each month.

36. All services cost money and if the FSS no longer exists the services and personnel would still be required to deliver work and attend court, so closure could not save all the costs of running the FSS, and the consequences are highly likely to cause or increase other costs.

37. Costs of close down must themselves be considerable.

38. The market is dysfunctional, because there is a monopoly purchaser, and additional costs are borne by the FSS. Some other providers have been set up by ex-FSS staff so the FSS has provided much of the training and also endeavours to keep the wide range of services, and provides advice which is best for the case rather than economically most advantageous for the FSS.

39. There will be set-up costs and a substantial continuing cost for whatever body has the job to maintain (and supply when required) the very extensive casefile, other records and retained materials warehouse.

40. The removal of a key supplier in the market changes the balance of power in the tendering process, consequently causing increased prices and tenders not offered on poor return grounds; even more likely with the uncertain demand forecast.

41. It is likely that costs of external oversight of many suppliers will increase.

42. Additional costs are likely from replication of support structures, bureaucracy insourcing facilities and infrastructure across forces and hidden costs of extra in-force admin paperwork, plus delivery to and between a number of suppliers and more scientists going to court.

43. It has been made known that other providers have made claims that they can take on all the FSS work. That is an understandable claim, but if so it will be on their terms, and how that is to be delivered cannot be known at this stage. However, if that requires some investment the market is unattractive, in these times, with purely public funding, demand already shrunk and continuing. In addition, future demand of required work is unknown, and so overall existing suppliers are understandable if they are reluctant to invest and new players are unlikely.

44. This take up of the FSS work is not likely to involve FSS staff and facilities and other providers are likely to wait until FSS goes before moving in. They can be confident to pick up sufficient staff they want at market rate and they wouldn't be burdened with the legacy issues, TUPE liabilities of salary and redundancy of current FSS employees many of whom they would not want on those terms. Similarly, laboratories geared to the staffing, shape and comprehensive nature of FSS operations. If true this overall situation will make continuity more difficult, will put upward pressure on prices to forces (because of urgency) and also means the loss of probably the vast majority of FSS experience to the profession. In addition the redundancy costs for practically the whole FSS staff body who have not already left will fall on the public purse.

45. Reliance on staff waiting to secure their redundancy payments may not be safe as uncertainty of future employment makes many staff reluctant to forego a job offer, compromising delivery during wind down. Rumours of a poor package will exacerbate this risk.

46. As the FSS is being wound down, and we are not tendering; I have concerns we will have nothing for sale which has a market.

47. I am a Forensic Scientist of over 30 years standing, a member of staff of the FSS, a member of Prospect Union and of the Royal Society of Chemistry. This submission contains only my own personal views.

Ian Parkinson

14 February 2011

Written evidence submitted by Jeffrey Gray and Sara Gray (FSS 59)

INTRODUCTION

1. We are recently retired (Jeffrey Gray) and currently employed (Sara Gray) Senior Forensic Scientists at the Wetherby Laboratory of the Forensic Science Service Ltd (FSS). We have worked for the FSS for over 40 and 30 years respectively and during that time we have worked on many high profile cases investigated by senior police officers in the seven North East police forces served by the Wetherby Laboratory. Indeed during the past 10 years or so we have, between us, contributed, in one way or another, to the majority of such cases submitted to the laboratory. We made these contributions using sound scientific procedures established by the FSS and sometimes using innovative methods designed as a "one-off" for a particular case, whilst often working in very close collaboration with the investigating officers. In this work we have been supported by a group of similarly qualified and experienced colleagues working both at the Wetherby Laboratory and at other laboratories in the FSS.

2. As our submission is a personal one, on issues as we see them from our perspective, we have not attempted to respond to all of the questions posed.

Q1. What will be the impact of the closure of the FSS on forensic science and on the future development of forensic science in the UK?

3. Prior to the, what we believe to be mistaken, action of setting up, or the engineering, of a market place for the provision of forensic science, most of the general forensic work was undertaken by the FSS and one or two other smaller providers, with the FSS being the main provider. Working in the FSS has allowed us to take a "holistic" approach to the provision of best forensic evidence ensuring that the most appropriate examinations

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are carried out on the most relevant items. Further, by being able to conduct all the necessary tests in one organisation, we have been able to robustly interpret our scientific findings in the light of the case circumstances. Whilst a holistic approach might appear to be expensive in terms of what the police spend, it can reduce overall costs by being used to better effect in court by, for example, encouraging a guilty plea. We have seen the results in very many of the cases on which we have worked initiate a guilty plea, even in cases of "major crime". We believe this is because, working in the FSS, we have worked to very high standards of examination and evaluation.

4. Fragmentation of the provision of forensic services/science to police forces in England and Wales has already started; some of this has arisen directly out of the National Framework Document¹ but it has mostly been driven by the desire of police forces to reduce costs and hence their spend on forensic science. The result is that smaller organisations have entered the forensic market place to tender for niche or simple testing and police forces have started to either conduct some of their forensic work "in house" or have expanded their current in-house work. With some parts of the work being done "in house" and some parts being undertaken by the cheapest provider this can easily result in different items (and hence different pieces of evidence) from the same case being examined/tested by very different organisations. Therefore with fragmentation of forensic provision, none of the separate pieces of evidence will be satisfactorily brought together for interpretation in the light of case circumstances. Such an approach can lead to miscarriages of justice. We have seen examples from other force areas where inappropriate work has been undertaken as the selection of items and their examination has been based on cost rather than value to the whole case.

5. A simple example of the above would be where a man is arrested on suspicion of hitting another man with a broken bottle. The police believe the victim bled during the assault and they examine the suspect's jacket "in house". Some blood is found on a sleeve, a sample is sent to a testing laboratory and the DNA results show that the blood tested could have come from the victim. The suspect is charged with the offence. Two statements are produced for the court: one states there is blood on the sleeve and the other states that the (DNA profile of) the blood matches the victim. What is not known, or reported, at this stage is the nature of the blood staining (how was it deposited?) and what the suspect has said about the incident. It might well be that the suspect says that he went to the aid of the injured man and that the blood on his jacket is a result of that intervention. In the fragmented approach no one has evaluated the meaning of all the evidence. Further, in this fragmented approach it might well be that other possible evidence types are not considered. (For example it might have been relevant to examine the jacket for the presence of glass particles given the victim was struck with a broken bottle). An extension of this approach is that eventually no one will ask the question about other evidence types and the Criminal Justice System (CJS) will never be aware of what it might have had.

6. The FSS has designed and brought into practice all the basic procedures used in forensic science and has been at the forefront of the major innovations (eg DNA profiling) and research in forensic science. Further the FSS has trained the majority of practitioners in the field. The FSS has set and maintained high standards in its work and has been regarded as the benchmark in that other providers have adopted FSS procedures and standards. The FSS is currently large enough to support an active Research and Development (R and D) programme and has sufficient practitioners to test and challenge any new developments. An essential part of the development of any new technique or process is to make sure it is exhaustively tested by skilled practitioners. Many of the requirements for research come from questions posed by practitioners themselves; these are usually the direct result of problems encountered during casework. The separation of forensic research from practitioners is in our view likely to lead to inappropriate research being carried out and hence it would not be sensible to rely on, for example, academic institutions to undertake such research. Further, since they have been in the market place, other (private) providers of forensic science have not undertaken any significant research or initiated any significant developments in forensic science. Our view is that this is too expensive for private contractors to consider and hence the only place for research and development is in the public sector.

7. The cost to an organisation of providing the ability to undertake the full range of forensic examinations, such as those we have been able to undertake, is such that some providers may well decide that they cannot continue to do so. If smaller providers pull out of the forensic market place which has already lost the FSS we ask "who will undertake the work?"

8. In summary, in our view the impact of closure of the FSS on forensic science and the future development of forensic science will be severe in that it will hasten the fragmentation of forensic provision with no undertaking that future provision will be secure and robust.

9. It is, in our view, important to note that in relation to the forces served by the Wetherby Laboratory² there has been very little penetration by other providers and the FSS is the sole provider of most of their forensic provision. They have been loyal to the FSS and maintained a close working relationship with scientists at the Wetherby laboratory. There was no suggestion in the closure announcement as to how the North East forces would obtain their forensic provision if the FSS was wound down.

Q2. What will be the implications of the closure on the quality and impartiality of forensic evidence used in the Criminal Justice System?

10. Whilst FSS practitioners undertake examinations on items obtained by police personnel, the strategy for examination of the items and interpretation of any findings is determined by the forensic scientist in the light

of the known case circumstances and, if possible, in the light of any comments made by the suspect. As forensic scientists we report our findings in a manner which demonstrates to the reader that a balanced, logical interpretation has been made irrespective of whether the findings favour the prosecution or the defence. Further, because we are physically separated from the collection of items we are able to scrutinise their selection and to suggest alternative items for examination. This might mean that in some cases it would be prudent to examine items which might yield evidence in support of the defendant; it is difficult to undertake this form of scrutiny if the organisation selecting items for examination also examines them and reports the findings, especially if there is no 'drive' to seek the alternative (defence) view.

11. In our experience of working closely with police investigation teams in each of the North East forces we have found that our views and expertise are highly respected. On many occasions our views have been sought particularly at the early stages of an investigation and the decisions we have made have directed or helped direct the police investigations. Our experience working with different police forces has also enabled us, after seeing how one force handles certain situations, to offer advice on best practice to other forces. As forensic scientists working in a large regional laboratory we see a wide variety of cases from our police forces which we would never see if we worked for one force only. Individuals operating in a single force, and without the backing of a larger organisation, will never see the variety of cases that we see. We have heard that one of the forces in our region is considering taking a significant part of its forensic work in force. We challenge the thinking behind this as we believe that as they will not see the wide variety of work they run the risk of becoming insular and possibly working only to specific police, as opposed to CJS, needs. Further, we have been "free" to voice our views about alternative examinations and to encourage, if necessary, the investigator to consider the defence view. In addition, being part of a larger organisation we have been able to make good use of colleagues, with different skills, at other FSS laboratories.

Q3. What is the financial position of the Forensic Science Service?

12. We believe that the Transformation process which the FSS has been undergoing for the past two years (and which it is said still has two years or so to go to yield its expected results) has not and will not result in a cost effective service. The FSS has spent far too much money on management consultants and grandiose projects with little real input from working forensic scientists. We believe that most of the basic decisions made about the reorganisation will not result in an efficient organisation. There have been too many management and other non-scientific (or "non-fee-earning") roles created leading to, in our view, overheads which are unnecessarily large. Further the role and position of the scientist has been effectively downgraded. Our view is that Forensic Science should be run by forensic scientists, with administrative assistance only where necessary.

Q5. What are the alternatives to winding down the Forensic Science Service?

13. It is our view is that:

- (i) the work of the forensic practitioner must remain separate from the police/prosecution process;
- (ii) best practice, to secure the best and most reliable outcome for the CJS, dictates that cases/items should be subjected to a holistic approach for forensic examinations and that the work should not be fragmented into small packets;
- (iii) forensic science is best practiced in a large organisation where there are sufficient qualified and experienced practitioners to challenge and support colleagues and ensure that procedures and evaluations (of findings) are robust and reliable, and where the scientist has the opportunity to see how different police forces operate;
- (iv) research and development of new procedures is best undertaken within the organisation which will carry out those procedures; and
- (v) whilst forensic provision can come from other providers, there should be an organisation which sets and maintains standards, is able to undertake long and expensive investigations, will be able to undertake those examinations which other providers cannot or do not want to undertake, and whose practitioners benefit from seeing a wide variety of cases from large force areas.

Overall, for the above reasons we believe that the only alternative to winding down the FSS is to *not* wind it down, but to keep it in the public sector, allow it to concentrate on the science and not the management, to be the leading provider of forensic science and research and to be responsible for setting standards for the forensic community.

Jeffrey Gray and Sara C Gray

14 February 2011

REFERENCES

¹ National Framework Document defines (forensic) scientific examinations and tests and the standards which must be met for each of these tests. It has been used during the tendering process undertaken by a number of police forces.

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² Northumbria, Durham, Cleveland, North Yorkshire, West Yorkshire, South Yorkshire and Humberside (Police Forces).

Written evidence submitted by Neville Isles and Lynn Bower (FSS 60)

This response follows the same order as defined in the Terms of reference issued in January 2011.

DECLARATION OF INTEREST

This response has been compiled by the two members of the FSS Breath Alcohol and Type Approval Unit, and the responses are therefore mainly specific to this particular work area. It is not a corporate response and the views contained within are those of the submitters only.

RESPONSES

1. What will be the impact of the closure of the FSS on forensic science and on the future development of forensic science in the UK?

1.1 The Forensic Science Service Breath Alcohol and Type Approval Unit (BATAU) provides technical and scientific advice to the Home Office on drink and drug driving, in order to support national drink and drug drive policy. As well as advice to the Home Office, BATAU staff have advised the CPS, ACPO, ACPOS, DfT, Prison Service, and individual police officers.

1.2 The FSS is the only provider of this service in the UK, and has done so exclusively since before the introduction of electronic breath alcohol detection equipment 30 years ago.

1.3 The BATAU is a highly-specialised area consisting of two members of staff closely aligned to the FSS Toxicology section. The two members of staff in the BATAU have a combined experience of more than 25 years in the area of drink and drug driving detection and analysis. There is a very real risk that at least one of these members of staff will be lost from the profession should the FSS be wound-down.

1.4 Part of the role of the BATAU is to define standards and requirements for three types of drink and drug drive detection equipment, namely; breath alcohol screening devices; evidential breath alcohol testing instruments; and preliminary drug detection devices. These requirement, or “Guides to Type Approval”, define the minimum requirements that a device must pass before being considered for Type Approval—without which the police cannot use them operationally (*Road Traffic Act 1988, Railways and Transport Act 2003*)

1.5 The BATAU also carries out some of the testing of these types of device. For the two types of alcohol detection devices, it has been the only laboratory in the UK able to do this type of work for more than 30 years. For the drug detection devices, which are only now becoming available, the BATAU is the only UK laboratory able to carry out this testing independently, impartially, and with the necessary experience of the Home Office Type Approval process.

1.6 We know that there is no other public laboratory with the necessary experience or toxicological back-up to carry out the Type Approval work required on devices intended for operational police use. Further, we also know that no private laboratory will be able to carry out the work, because device manufacturers will refuse to share with private companies, the company-confidential information required as part of the well-established Type Approval process.

1.7 Without a properly considered and functional Type Approval system, UK police officers will only be able to use equipment which is already Type Approved. Any modifications or updates to these devices, or any completely new devices, could not be Type Approved and so the UK police will be unable to take advantage of advances in drink and drug drive detection.

1.8 This particularly applies to preliminary drug detection devices, none of which have yet been Type Approved. If the FSS closes, these devices could not be tested—and therefore would not be Type Approved—until a replacement laboratory could be found. This replacement laboratory must be a public laboratory, have properly accredited Toxicology methods, and also be separately accredited for the Type Approval testing itself. There is no laboratory in the UK which meets all of these requirements. This will therefore have a direct impact on the Coalition Government’s stated policy of introducing a “Drugalyzer”, and also the DfT’s business plan for roll-out of operational devices.

1.9 Given the litigious nature of drink and drug drive prosecutions, and the sheer number of those prosecutions which occur (approximately 300 people per day are convicted of a drink or drug drive offence), it is absolutely imperative that the equipment used to support these prosecutions is tested properly, and that the whole process is beyond question.

1.10 Many cases will proceed without issue, but where a problem does arise, it can have knock-on implications for all prosecutions involving that equipment, or for drink and drug drive enforcement generally.

1.11 The BATAU has extensive experience in testing and using breath alcohol detection equipment, and is the only independent laboratory able to provide an Expert Witness as to the performance of all Type Approved

devices—either in a particular case, or in general. The only other source of this information is the device manufacturers themselves, who of course can only comment on their own device.

1.12 BATAU staff have represented the UK on European and International standards committees, ensuring that nothing in any of these standards can undermine the very high level of certainty required for the UK Type Approval system.

1.13 Additionally, the BATAU has advised the Prison Service on their alcohol detection policy, and liaised with the Civil Aviation Authority to allay the fears for safety-critical aircrew on the introduction of the lower “drink-fly” limit contained in the Railways and Transport Safety Act 2003.

1.14 Before the introduction of police Airwave radios, BATAU staff were extensively involved in the testing of drink drive detection devices against interference from the new radio system. BATAU staff were able to advise forces and manufacturers of operational restrictions where devices were affected, and helped to develop a brand new specification to be used for electronic devices intended for use by the police. No other laboratory would have been able to do this work.

1.15 The BATAU is completely aligned with the requirements of the Home Office as regards the Type Approval of devices. This area of work has natural peaks and troughs depending on when devices are submitted for testing. Being aligned with the larger Toxicology section of the FSS means that there is access to additional staff resource when a large amount of work is required; but also the BATAU staff can help out with the analysis of alcohol in body fluid samples when work is quieter. This flexibility will be lost if the work is transferred as a stand-alone unit.

1.16 The BATAU has the only piece of equipment in the UK which is able to carry out some of the tests required to Type Approve evidential breath alcohol testing instruments. The cost of calibrating this equipment to ensure it is able to carry out the work required is an average of approximately £10,000 per annum and it is unlikely that any private laboratory will spend this amount of money without any certainty of how much it will be used.

1.17 The Guide to Type Approval for mobile evidential breath alcohol testing instruments is due to be published in the next three months. Manufacturers will submit devices for Type Approval testing within three to four months after that. If the FSS closes (either before or during the year-long testing programme), any new laboratory will need to obtain UKAS accreditation to do (or complete) the testing work. Gaining UKAS accreditation is not a quick process and anything less than nine to 12 months would be an impressive achievement. This again, will mean that critical dates set by both the Home Office and the DfT will be missed, but more importantly the police will not have access to the latest technology to detect drink drivers.

1.18 Although not a “high profile” crime, the sheer number of cases of drink and drug drive which go through the courts mean that any perceived fault with the equipment will have an effect on many thousands of cases. Staff from the BATAU have advised the Home Office and CPS on cases where:

- 1.18.1 Defences were raised questioning the Type Approval status of one of the three approved evidential breath alcohol testing instruments. Had this defence been successful, more than 1/3 of drink drive convictions since 1999 could have been quashed.
- 1.18.2 A defence expert questioned the Type Approved status of a different evidential breath alcohol testing instrument when connected to a computer running a bespoke computer programme. The BATAU had previously tested this configuration, and advised the Home Office accordingly. We worked closely with the Home Office and CPS to explain the flaws in the defence argument. Had this defence succeeded, all drink drive convictions in approximately six police forces would have been overturned.
- 1.18.3 We are currently advising the Home Office, CPS, forces and instrument manufacturers regarding another defence being raised throughout the UK about the robustness of evidential breath alcohol testing instruments. Should this defence be successful, it will cause on-going problems for drink drive enforcement for a number of years.

To date, none of these defences have been successful. As a guide to how litigious this area of law is, the defence raised in 1.18.1 was eventually defeated in the House of Lords.

2. What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

2.1 As stated before, the BATAU has the only piece of equipment in the UK capable of carrying out some of the tests required as part of the Type Approval of evidential breath alcohol testing instruments for operational police use. It costs many thousands of pounds to maintain and calibrate, and there is no guarantee that it will be used before requiring recalibration. Recalibrating the device is a specialist job which can only be carried out by one laboratory in the UK, and can take months to complete. It cannot therefore be “mothballed” until some work comes in. It is unlikely that any private laboratory will cover the cost of this equipment in the hope of work being submitted.

2.2 The BATAU offers a national service based on a Service Level Agreement with the Home Office. Police enforcement of drink and drug drive laws cannot function without the work carried out by the BATAU. No public laboratory outside of the FSS has the resources to do this work, and even if a private laboratory were

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to take the work on, they would be able to charge what they liked as they would have a monopoly providing an essential service.

2.3 If the BATAU were to move from the FSS, any new laboratory would have to gain UKAS accreditation for the work carried out. Acquiring accreditation requires a lot of investment of time, and is expensive to achieve. Even for the simplest work (Type Approval of breath alcohol screening devices), it can easily take a year to attain accreditation for a new laboratory. It should be noted that to carry out all of the work done by the BATAU, the number of methods which would require accreditation from scratch would take years rather than months to complete.

2.4 Type Approval work, and the associated technical advice on drink and drug drive policy, requires a thorough understanding of many competing issues. The loss of even one of the two staff in the BATAU will have immediate implications for the work carried out—the loss of both would also have long-term repercussions for the enforcement of drink and drug driving. If there is only one experienced member of staff, they will have to do all of the varied work required, whilst at the same time trying to train additional staff resource as back-up. Currently, training additional FSS Toxicology staff to help with practical Type Approval testing of devices would take minimal resource due to the close working relationship between the two sections.

2.5 Due to the close working relationship with Toxicology, BATAU staff are able to advise on non-standard drink and drug drive cases where unusual circumstances may affect the interpretation of cases. Additionally, we are also able to feed back to the Police National Liaison Officer at the DfT if we see recurring procedural or technical problems.

2.6 If the closure of the Chorley and Chepstow laboratories have taught us anything, it is that the vast majority of staff have left the forensic science area completely, taking with them years of experience and knowledge that will be almost impossible to get back.

3. What is the financial position of the FSS?

3.1 The closure of the Chepstow and Chorley laboratories would have saved the FSS millions of pounds per year. Unfortunately, the decision to close the FSS will not allow the full benefit of these savings to be fully appreciated. We are not able to comment further on this question.

4. What is the state of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the FSS and the volume and nature of the forensic work carried out by police forces?

4.1 We know from discussions with instrument manufacturers that they will not submit devices for testing to a private laboratory because of the company confidential information that is required as part of the Type Approval process. This will effectively halt development in this area for the UK police. Nevertheless, we have included our opinions on what would happen if the work was awarded to a private laboratory for completeness.

4.2 The private sector would need to make money. They could only do this by charging the Home Office more for the “Technical Advisor” role, and/or charging device manufacturers more for testing their equipment. This cost could dissuade manufacturers from submitting new equipment (thereby leaving police using older, outdated devices); or the cost will be passed on to forces by charging more for each piece of equipment.

4.3 The scientific advice provided by the BATAU is essential to the criminal justice system; from the initial advice which helps to form national policy on drink and drug driving, through Type Approval testing of candidate devices, to advice on individual cases. No other public laboratory would have the expertise or resource to do this work. Any private laboratory would be able to charge any fee they wanted as they would have a monopoly on providing this essential service.

4.4 Any new provider of the service currently provided by the BATAU would need to invest in additional laboratory space and equipment as well as staff and method accreditation to provide this service.

4.5 Although there are only two full-time staff in the BATAU, we have additional semi-trained staff available from the pool of analysts in Toxicology. It would take minimal time to train these staff if a large amount of Type Approval work came in. To get to this stage again—in either the public or the private sector—will take significant resource over a long timeframe. The timeframe involved would certainly be too long to cover the expected work to Type Approve preliminary drug test devices, and mobile evidential breath alcohol testing instruments.

5. What are the alternatives to winding-down the FSS?

5.1 Approximately £50 million was invested two years ago by the Home Office as part of a Transformation Programme to allow the FSS to evolve into a more focussed organisation. The FSS is exactly on track to deliver these planned benefits. If the decision to close the FSS is a financial one then time should be given to allow the full benefits of Transformation to be assessed. If this is not done, then this money and the enormous amount of effort by operational FSS staff has been wasted. The decision to review the status of the FSS should have been made once enough time had passed to evaluate these changes. The costs of closing the FSS are

currently not known, but are likely to be significant. There will also be significant costs in providing support to valuable legacy work (such as exhibit storage, databases, casefile storage, etc).

5.2 Whether the FSS survives or not, there will be a forensic market. If there are only private suppliers to this market, they will be able to cherry pick the work that they see as profitable. Areas which are not seen as profitable will not be bid for. Private laboratories can choose not to do forensic work, and may back out of the forensic market at any time. Private forensic laboratories are under no obligation to take forensic work, or to carry out work beyond what has been bid for.

5.3 If the FSS were to survive, it could play an active role in trying to help sustain a healthy market. As with any business, if it could not make money, it could be closed or merged with another laboratory; but there would still be an overarching public interest in this critical area of the criminal justice system.

5.4 If the FSS closes, the UK will be the only country in the world without a publicly-funded forensic science service. The problem with supplying work to the lowest bidder is that work is then done down to a cost rather than to a standard. Yes, you may save £50 or £100 on the analysis of exhibits in a case, but what use is that if the case then goes to appeal or is discontinued because the work was not done properly?

6. So far as they are known, are the arrangements for closing down the FSS, making staff redundant and selling its assets adequate?

6.1 When the decision was announced on 14 December 2010, there were no plans on how the decision would be implemented. Nearly two months on, we still have no further information on plans or timescales. There are still no details on staff redundancies or selling assets.

Neville Isles and Lynn Bower

14 February 2011

Written evidence submitted by Dr Kevin Sullivan (FSS 61)

I. SUMMARY

1.1 Winding-down and closure of the FSS by March 2012 risks reducing the quality of forensic science provision in England and Wales both now and in the future, with concomitant risks to the wider Criminal Justice System (CJS). The forensics market external to the police is in decline whilst in-sourcing by police forces is accelerating. Thus forensic science is migrating from the regulated high quality environment operated by the FSS and other accredited Forensic Science Providers (FSPs) to one which is both to a lower demonstrable quality standard and is excluded from competitive pressures to improve.

1.2 These risks exist because the Forensic Science Regulator (FSR) currently has no statutory powers to enforce quality standards, combined with the Home Office having failed to regulate a dysfunctional commercial market in which effectively a single customer is the sole budget-holder and also a major provider whose own costs for provision are not fully known.

1.3 Major concerns over actual, perceived and demonstrable impartiality of forensic science exist in an adversarial system where the police service are both intent on securing a conviction but also provide the evidence.

1.4 Loss of FSS R&D capability plus other commercially unattractive core functionalities will cause longer-term damage to the continued provision of effective forensic science within the UK. Despite the world-renowned reputation and track-record of FSS R&D for innovation and delivery, commercial companies are unlikely to be able to absorb this overhead in an increasingly competitive and shrinking commercial market. The most effective way to limit this damage is to move these activities back into the public sector, otherwise the UK world lead in this area will be lost, new types of forensic evidence will not become available to the CJS and some specialist forensic applications will cease to exist. In addition, capability to respond to continually evolving challenges to scientific evidence in courts would be degraded.

1.5 A transformation of the CJS beyond the FSS is required if forensic improvements are to be developed and applied effectively in our country once more. Currently there is little true collaboration, or alignment and integration of objectives between police, forensic science and the Crown Prosecution Service (CPS), which has led to excessive and detrimental delays in the introduction of new forensic techniques to the CJS.

2. DECLARATION OF INTEREST

This submission is in the capacity of a private individual, but also from a position of some knowledge, with over 23 years of experience working within forensic science in the UK, including as Head of R&D, and latterly the Standards and Validation Manager, for the FSS. I am a member of the Quality Standards Specialist Group that advises the FSR on all matters pertaining to standards in forensic science, and have been closely involved in drafting the FSR's Codes of Practice and Conduct.

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3. IMPLICATIONS OF THE CLOSURE ON THE QUALITY OF FORENSIC SCIENCE USED IN THE CRIMINAL JUSTICE SYSTEM**3.1 *Why Quality Standards are Essential in Forensic Science***

3.1.1 Forensic science is primarily concerned with taking all reasonable steps to minimise risk of error and avoid misleading an investigation or the courts. The investment required in establishing and maintaining a quality framework is considerable, typically adding 15–20% to overall costs.

3.1.2 Mistakes can and do happen even within laboratories accredited to international quality standards: no system in the world can prevent this from happening. However, what accreditation does provide is assurance that results have been generated using demonstrably reliable techniques utilised within a well-controlled process, which include accountability and mechanisms to ensure that should any faults occur these are identified and addressed to prevent recurrence thereby enabling continuous improvement in the quality of service provided.

3.2 *UK Quality Standards for Forensic Science*

3.2.1 There are 3 tiers to quality standards in the UK, comprising two international standards ISO9001 and ISO17025, plus the forthcoming Regulator's Codes of Practice and Conduct.

3.2.2 The ISO9001 standard specifies requirements for a quality management system. It does not in itself demonstrate the competence of the laboratory to produce technically valid data and results.

3.2.3 The ISO17025 standard specifies general requirements for the competence of testing and calibration laboratories, and it is widely considered to be the most appropriate quality standard for forensic laboratories. Most FSPs are accredited to this standard because it is a stipulated requirement in police tenders for forensic science provision.

3.2.4 ISO17025 is ideal for controlling the quality of scientific testing but it does not encompass all the activities that are essential to the delivery of effective forensic science to the Criminal Justice System, in particular expert assessment and interpretation of evidence. To this end and in response to previous reviews criticising the lack of forensic standards in the UK, the FSR has drafted Codes of Practice and Conduct for forensic science providers and practitioners to the Criminal Justice System. This is a significant step forward in defining what is required from providers to the CJS at organisational, technical and practitioner levels. Version one will be issued in April 2011. Not included in this first version are all the detailed appendices intended to establish standards for specific areas of specialism which would include standards for casework interpretation e.g. of Low Copy Number DNA profiles.

3.3 *FSS Quality*

3.3.1 Following some high profile quality failures in the 1980s the FSS implemented accreditation to quality standards from 1993 onwards, a world first for forensic science. The present FSS in-house quality framework goes well beyond the basic requirements of ISO17025 and is in close accord with the FSR's forthcoming Codes. Indeed, before closure was announced the FSS were planning to act as a test-bed for compliance to this code later this year.

3.3.2 The FSS quality framework also includes standards for casework assessment and interpretation that are essential for provision of robust forensic science to the CJS, but are not yet present in the FSR's Codes.

3.4 *Police Progress Towards Working to Quality Standards*

3.4.1 The ISO9001 Standard is met in part by the police. ACPO had intended to bring all police science up to this basic standard by 2013. However following a gap analysis conducted in 2010 this target has now been dropped due to budgetary pressures. Instead the goal has changed to moving directly to ISO17025 accreditation.

3.4.2 Progress towards accreditation of police science to ISO17025 has been variable and timelines are slipping significantly. To date virtually no police forensic science is conducted to this quality standard which is in stark contrast with traditional FSPs. The only force to date to achieve this is the Metropolitan Police for some of their scientific work at their Amelia Street site but this represents only a very small fraction of their total scientific activity. ACPO aim to rectify this situation and have stated that forensic science taken back in-house from FSPs should be accredited to ISO17025, but in reality budgetary and time constraints mean that only a small fraction of their science will be accredited by the FSS closure date and it will be a number of years before all police science could achieve ISO17025 accreditation let alone compliance with the FSR's Codes, and this is assuming that this policy is vigorously followed.

3.4.3 ACPO announced in Jan 2010 that a project had commenced within the NPfA- run Forensics 21 programme to implement quality standards for police forensic science. The aim was to achieve accreditation to ISO 17025 by March 2013 but just for the enhancement stage of fingerprint analysis. A year later the deadline has been extended by two and a half years to November 2015. This slippage indicates that the timelines are driven by statutory compliance with an EU framework decision rather than adherence to the Forensic Science Regulator's requirements which is on a voluntary basis.

3.5 Issues with In-Sourced Forensic Science

3.5.1 Presently the external forensics market is declining significantly whilst in-sourcing by police forces of forensic work is accelerating. Thus work transferred from external suppliers to the in-sourced capability that the police are creating, will move from a regulated quality environment accredited to ISO17025 and for which high levels of assurance can be provided to stakeholders, to one which is both to a lower demonstrable quality standard and is excluded from competitive pressures to improve.

3.5.2 Regrettably a number of quality failures have been identified recently arising in police forensic science, including the practice pre-screening items to cut costs. These have been raised with the minister and require thorough investigation by an experienced and independent forensic scientist rather than by the police themselves to demonstrate impartiality. A fear with compromising quality of processes is that problems do not necessarily come to light until a long time after the change, so the consequences can be far-reaching.

3.5.3 The FSR does not have statutory power to enforce compliance with standards. Police compliance with ISO17025 and the FSR's Codes of Practice and Conduct is the single key issue on which regulation of standards for forensic science in the UK will succeed or fail.

3.5.4 There is a significant risk of scientific techniques undertaken by the police being successfully challenged in the courts on the grounds that they do not meet recognised standards of quality. For example an emerging battleground within the courts is the validity of techniques. Validation is an element of ISO17025 and is a key component of the FSR's Codes. Therefore whilst there can be confidence that accredited techniques have been subject to independent scrutiny by an expert UKAS assessor, no such assurance exists for the vast majority of police science and it is unclear whether the validation evidence they may have is sufficiently robust to withstand the degree of challenge to which, for example, certain DNA techniques were recently subjected, and withstood, in our courts.

4. IMPARTIALITY

4.1 Further concerns centre on ensuring impartiality of forensic science, and demonstrating this to be the case. A recent far-ranging and critical review of forensic science in the US conducted by their National Academy of Sciences recommended that forensic provision should be demonstrably separated from police processes.

4.2 This was recently expressed in forthright terms by Robert McFarland in a letter published in *The Guardian* newspaper on 13.1.11. McFarland led an independent review of the FSS in 2002–03 which prompted the change in status to a Government Company. In his letter he is supportive of the wind-down of the FSS but also expresses worries regarding police forensic experts appearing as court witnesses, and ensuring impartiality is maintained as a result, given that in an adversarial system the police service are intent on securing a conviction. Therefore, even if measures are taken to help prevent this situation the public perception is always likely to be that lack of impartiality remains.

5. IMPACT OF THE CLOSURE OF THE FSS ON THE FUTURE DEVELOPMENT OF UK FORENSIC SCIENCE

5.1 Police tenders in recent years have focussed overwhelmingly on getting the cheapest deal, leaving no margin for and giving no incentive to organisations to invest in R&D—work which is required if forensic science is to develop and progress for the future. The FSS are and have been for decades the key provider of forensic R&D and new groundbreaking techniques in the UK, and a major contributor on a global scale of which our country can be justifiably proud. It has also been pre-eminent in the development and improvement of standards for forensic science worldwide. It is imperative that this work is allowed to continue, but no other organisation in the UK has the capability to do so: the research councils do not fund forensic research, declaring quite correctly that it should be directly funded by government; university departments lack the in-depth experience of taking ideas through from concept to a rugged and validated process that can withstand the rigors of our adversarial judicial process; police labs lack both the necessary environment and the critical mass of research staff required to undertake substantial research projects; there is no government research capability in this area, the closest being the Home Office Police Scientific Development Branch which has zero DNA capability or experience.

5.2 No other country in the world has attempted to meet its forensic requirements on a purely commercial basis, not even in the USA where commercial laboratories have been established the longest: the Americans have always recognised that the long-term health and viability of their CJS is reliant on state-owned provision to cover complex and commercially unattractive elements of the whole forensic offering that commercial companies cannot provide, which includes core R&D activities development and maintenance of forensic databases and standards which are provided by centrally funded Federal Laboratories and Agencies.

6. ALTERNATIVES TO WINDING DOWN THE ENTIRE FORENSIC SCIENCE SERVICE

6.1 It is accepted that a fundamental shake-up of the FSS is necessary (indeed this was already well advanced), and that the quality of some simple commoditised forensic services need not suffer unduly provided that standards are rigorously enforced. However, this simply does not hold true for the more complex forensic work, and certain core non-fee earning capabilities need to be retained if long-term damage to forensic

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capability and development in the UK is to be avoided. This would include for example, R&D, expertise in violent and sexual crime casework, drugs intelligence, standards and validation, training, and maintenance of a national archive to service appeals queries and cold case reviews. A potential solution would be to slim down the FSS by divesting the commoditised components of its current portfolio but retaining the core capabilities plus the R&D unit within the public sector.

6.2 There is strong case to be made for maintaining the existing R&D team under a centrally funded umbrella to safeguard the future health of UK forensic science. This group has the expertise, critical mass and cross-functional skills necessary to deliver substantial technical improvements to forensic provision. Decisive and early action is required if this is to be preserved, otherwise the key resource which is the highly skilled workforce will inevitably be dissipated as these experts move elsewhere due to impending job losses. Much of the work undertaken by this unit is already of benefit to forensic science rather than just the FSS. Many of their innovations if made generally available rather than being kept in-house would improve the quality and efficiency of forensic science nationally and increase resilience to evolving challenges within the judicial system. This approach is a well-established practice by the FBI in the USA.

6.3 Breaking up the FSS will not solve major underlying problems with provision of forensic science in the CJS. A shake up beyond the FSS is required if essential improvements are to be developed and applied effectively in our country once more: true collaboration, alignment and integration of objectives between police, forensic science and the CPS simply is not happening at present, which has led to excessive and detrimental delays in the introduction of new forensic techniques to the CJS. The underlying causes need to be addressed as a matter of urgency.

6.4 Moving FSS R&D and related activities back within the public sector would help break down the present operational and political barriers that have made bringing innovation to the forensic marketplace virtually impossible since the FSS became a Government Company. Re-positioning FSS R&D and associated activities back within the Home Office Science and Research Group would provide synergies with the work already undertaken and with virtually no overlap: aside from huge expertise in forensic DNA analysis, other strengths of the FSS unit include extensive software development and statistical capabilities. For example, ground-breaking software has been developed by the FSS to provide a probabilistic approach to evaluating the strength of fingerprint evidence. This may prove to be critical in our country's response to criticisms in the imminent Scottish Fingerprint Inquiry Report regarding the lack of demonstrable scientific rigor in our current national approach to presenting fingerprint evidence in the courts.

6.5 There are also significant benefits in re-establishing close links between the National DNA Database (NDNAD) and FSS R&D regardless of where the former ultimately resides following the closure of the NPIA in March 2012. This alignment would provide the vision, technical knowledge and project management skills to transform this national service back into the world-leader it once was before the link to R&D was severed some years ago when the FSS became a Government Company. Geographic synergies could be exploited to improve integration and facilitate faster development simply by physical co-location of related groups: the Forensic Regulator's unit, the National DNA Database staff both based in Birmingham, could easily be co-located in purpose-built lab facilities at the FSS Trident Court site currently housing the FSS R&D unit.

7. CONCLUSIONS

7.1 It is my firm belief that the following actions are required if we are to safeguard the quality of forensic science provision in the UK both now and in the future:

- Enforce through statute accreditation to ISO17025 and the FSR's Codes of Practice and Conduct for all forensic science in the UK regardless of whether this is by FSPs, police or defence scientists.
- Undertake a review of police in-sourcing of forensic science with regard to quality, impartiality and cost effectiveness compared with traditional FSPs. This should include investigation of the underlying causes of recently identified police scientific quality failures. This should be conducted by an independent and experienced forensic scientist to avoid conflict of interest.
- Move FSS R&D plus other core activities back into the public sector. This is urgently required if capability is not to be degraded through staff losses in the current climate of imminent closure.
- Undertake an independent review of the forensic marketplace and promulgate a revised structure in which supporting the long-term integrity of forensic provision in the CJS is of primary importance rather than just minimising costs.
- Undertake an independent review to identify and subsequently remove the key blockages to bringing forensic innovation to the marketplace.

Dr Kevin Sullivan BSc, PhD

13 February 2011

Written evidence submitted by Robert Green (FSS 62)

DECLARATION OF INTERESTS

Currently I am a member of the Forensic Science Service, having left the Home Office in December 2010. Over the past 20 years I have had wide-ranging involvement in the practical application of forensic science and associated business practices within the police service. I have, in the past, worked in as a Senior Crime Scene Examiner; Project Manager with the FSS; Team Leader at the Home Office, Police Standards Unit, Forensic Science Team and HMIC. Whilst at the Home Office I commissioned and managed the Scientific Work Improvement Modelling (SWIM programme) and lead the work on DNA cold case review (Operation Advance). For several years I commissioned an annual assessment of forensic performance supporting the ACPO portfolio and have written extensively on the topic of forensic value and performance. I was made an OBE in 2008 for Services to Forensic Science and am Honorary Professor at the School of Physical Science (University of Kent). Although being somewhat well-informed of the end to end forensic process, all opinions expressed in this document are personal and not taken to reflect the views of past employers.

SUMMARY

1. Investment decisions required to fill the 60% market share freed up by the closure of FSS are high risk and potentially low margin in a fragile forensic market.
2. As police spending on forensic science is reduced in line with CSR and reductions in crime, will suppliers invest at their current levels unless the scope of the market is increased beyond forensics? Perhaps the market could be opened up to include internalised and more seamless forensic provision?
3. The capacity of laboratories cope with market changes has been recognised with their take up of market share and ability to incentivise research but will this continue unless a realistic return on investment is anticipated?
4. The police service spends more internally than they do with external suppliers. The external costs to police forces (or size of market) seem to be in the order of £165 million in 2008–09 (around 1% of total policing budget). This has reduced substantially in 2010 and projections could reduce this further.
5. The size of this “open market” seems set to decline with the police service increasingly positioning them as a customer/recipient of (quality assured) forensic services and (largely unregulated) supplier of forensic services in their own right.
6. Alternative approaches to crime investigation are not costed in the same way (as forensic science) and therefore appear free at the operational level (for example—fingerprints) compared with mainstream forensic science where costs are more overt.
7. Continued subsidy of the FSS could be viewed as inequitable and one-sided by private sector forensic suppliers and may, in itself, lead to the departure of private investment.
8. All forensic provision should be regulated (from the outset) by the same quality standards. Not one rule for the police providers and one rule for others. Moreover forensic science should be delivered independently and available to both prosecution and defence.

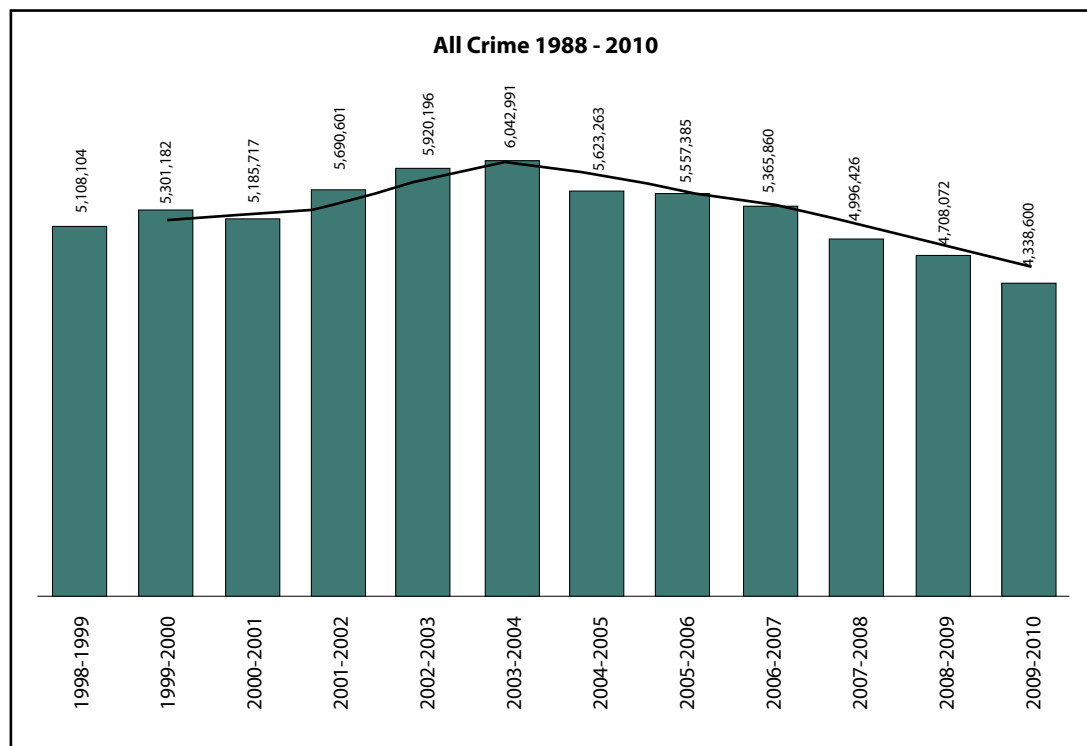
1. What will be the impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?

1.1 The Forensic Science Service had a market share in the order of 65% (annual accounts 2009). Correspondingly the remaining 35% is taken up by private sector forensic providers, the largest of which, LGC Ltd currently supplies around 23% with the balance provided by several other providers. Thus over half of the (externally provided) forensic market seems likely to change somewhat abruptly. The associated risks to the criminal justice system, victims and repeat offending should not be underestimated.

1.2 Before commencing, we should take a moment to reflect on the essential role played by forensic science (in the efficiency and effectiveness of the criminal justice system—Forensic Science on Trial 2004–05 and the risks associated with dysfunctional forensic provision. However, as (a) police spending on forensic science is reduced in line with CSR; (b) the challenges and reductions in crime (see chart 1) so the pressure on all forensic suppliers looks set to intensify. Will they wish to invest at their current/future levels unless the scope of the market is increased beyond forensics? Perhaps the market could be opened up to include internalised forensic provision (Fingerprints/Crime Scene Officer Resources) and provide a more seamless—end to end process? Consequently question one may better address the impact on the criminal justice system and, above all, victims of crime, by all forensic science providers in this unsteady, insecure and³⁵ declining market? This is particularly so as we proceed towards the 2012 Olympics and the strong possibility of terrorist attack.

³⁵ All crime between 2004–05 and 2009–10 have shown a reduction circa 23% from 5,623,263 to 4,338,600 1,284,663 less crimes 23%. The 08/09 to 09/10 reduction follows this declining trend and suggests a reduction of 8%

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1.3 This paper sets out to recognise the contribution of all forensic scientists as well as stressing the private sectors past success and future ability to deliver as well as pointing to the outstanding contribution of the FSS and others. In point of fact, the capacity of private sector laboratories to face these challenges has been recognised with their take up of market share, business agility and contribution to research. Nevertheless we ought to ask whether a generally reducing market will attract, incentivise and/or retain new or additional investment and what are our plans if this doesn't work out? In summary, these are highlighted below:

Some early consequences

1.4 Forensic services are provided to many stakeholders across the CJS. Whilst the police service is the foremost recipient of services, they do not represent the wide-ranging collection of stakeholders operating within the criminal justice system (both prosecution and defence). One might speculate on the degree of wider engagement with stakeholders, given the Governments announcement and timescale for change. Suffice it to say—these are not issues that affect only police services.

Given the level of investment required and uncertainty of volumes/in-sourcing – will the private sector absorb the opportunities and associated costs (increased demand of circa 60%)

The dynamics of crime on forensic science; namely increases in certain crimes drive the use of forensic science (particularly violent and sexual crimes)

Turnaround times and unit costs may have to increase as the forensic providers grapple with abnormally high demand

Will the forensic marketplace continue to attract the level of investment in research where the police service in-source forensic services?

Costs and Benefits in Context

1.5 It should be noted that the police service spends more internally (on collecting samples, quality checking, fingerprint examination and internal “laboratory” examination [mostly latent fingerprint examination]) than they do with external suppliers. Simply put, more is spent on the collection of material and in-house examination than is spent on qualified and independent forensic analysis. Moreover, many of the associated costs are concealed—namely Fingerprint identification (IDENT 1) service which is funded by the Home Office costs £37,164,000 annually and only appearing free at point of use because it is funded differently. Forces choose to invest on internal vs. external spend as highlighted above and whilst it would be improper to charge the police service to spend “ χ ” or “ γ ” on forensic science there are wider national issues to consider not to be influenced solely by cost driven deliberations in one police force/area or another.

Cost versus Utility

1.6 Taking the overall amount spent (both internally and externally) on forensic science—£368,876,864, set against the contribution made (124,082 detections *per annum*) suggests a cost per detection of £2,973; remarkable value when considered alongside other methods of investigations.

1.7 Separated out, the external costs to police forces (or size of market) seem to be in the order of £165 million in 2008–09 (around 1% of total policing budget). Estimates submitted to the Chartered Institute of Public Finance and Accountancy (CIPFA) suggest that overall spend (external) on forensic science is reducing in the order of 14% (based on 2009 estimates) and, most recently these cuts point towards 20%. This alone looks set to reduce the level of expenditure further (the estimates of a £110 million forensic market as cited by the Minister for Crime Prevention recently). One may wish to enquire—given the level of investment required to take an additional 60% of market share, at what point (a) do the proposals begin to look unappealing to long term investors; (b) what is our mitigation against risk; (c) are the 20% cuts applied before or after the projected £110 million forensic market and, if so will the remainder be attractive to investors. Although perceived as being cheaper, in truth, is the delivery of forensic science best dispensed by the police service themselves?

Consequences

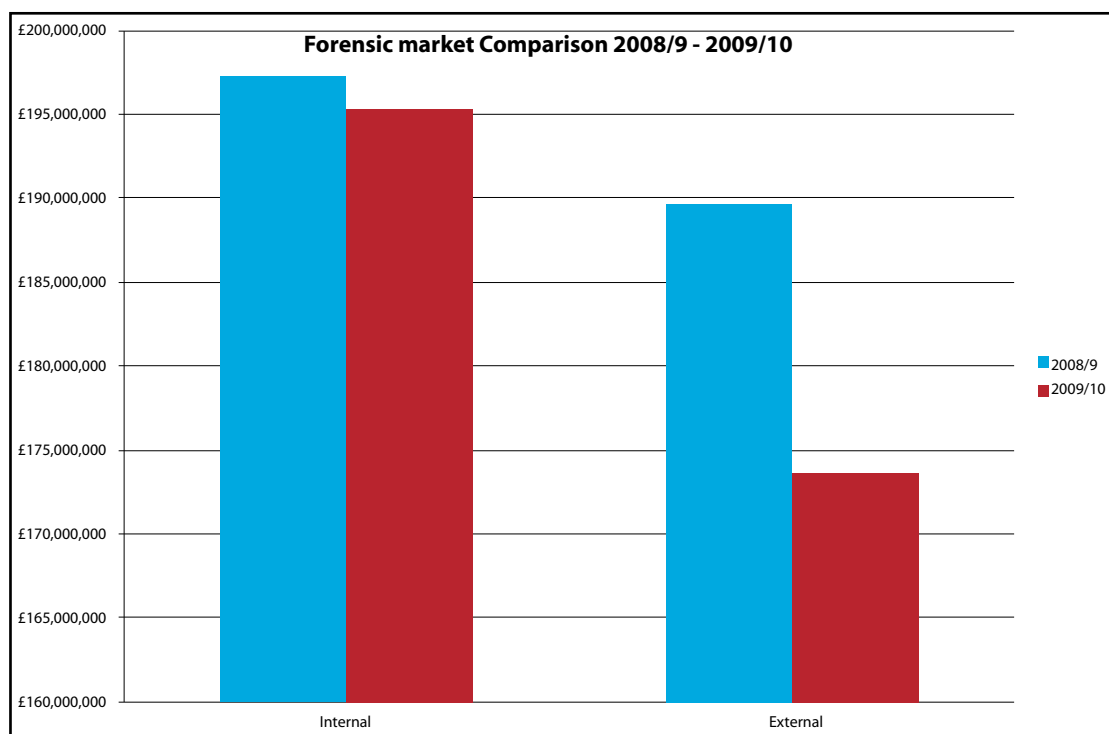
1.8 Pointing to the benefits and optimism of competition, the size of this “open market” seems set to decline with the police service increasingly positioning themselves as:

- Customer/recipient of (quality assured) forensic services; and
- A (largely unregulated) supplier of forensic services in their own right.

These points, more than most, will limit the future attractiveness of the market. Forensic services have to be financed—regardless of whether they are delivered in house or externally. Quite understandably, forensic suppliers will seek greater clarity about how the market will evolve, including clearer standards and less variety/ inconsistency if they are to invest in this market and particularly if commercial development is not well-managed. Moreover, in the past, the Forensic Science Service have been required to adopt the position of “supplier of last resort” which provided a level of protection which may not be taken up by some commercial providers.

Year on Year Comparison

1.9 Comparing 2004–05 against 08/09 (HMIC 2010) the total cost of forensic science has risen by £59,969,680 from £289,399,046 in 2004 to 2005 to £349,368,726 in 08/09; an increase of *circa* 21%. Whilst the internal costs (associated with this market comparison) have also reduced, they are not as sizeable in comparison. Naturally the police service will seek to protect their own resources over those of the external forensic providers. When viewed against declining crime levels artificially inflates the cost per detection made by forensic science. This research suggests that the external costs have reduced even further in 2010.

Ev w114 Science and Technology Committee: Evidence**Research Investment**

1.10 Noting the comments of 27 January 2010 by The Parliamentary under Secretary of State for Crime Prevention; research and development in forensic science is essential to ensure the continued availability of a high quality, efficient, forensic science capability for the Criminal Justice System. The influence of private sector competition seems likely to incentivise continuing investment in research. This of course, assumes there is a likely return on this investment and value driven by these initiatives to invest in more research.

2. *What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?*

Quality screening v in house testing

2.1 The foremost risk here seems to be the desire of the police (contrary to other more general trends—custody, prisoner transport *etc*) to in-source forensic services. The likely outcome here is to: (a) reducing market size and (b) limit the attractiveness of current and future investment by any supplier. Acknowledging that it is absolutely correct to (a) inspect and (b) select the best forensic material (prior to submission to forensic suppliers), nevertheless the balance between costs and effectiveness must be borne in mind. This is particularly so where forces seek (as a logical progression) to undertake (c) their own testing “in house” as budgets tighten as a result of CSR over the next four years.

2.2 Accepting the benefits associated with private sector investor, there is a high dependence on the police customer whose demand for forensic science varies year on year depending on the level of crime as well as other influences of spend. Given this variability—the police decision to invest in a fixed level of (internal) resources appears illogical. From my experience, (police) business cases are often built on the basis of cost reductions by employing the one or two scientists to undertake this work in house whereas, (a) of course, more resources are needed to manage the peaks, troughs and trends of demand, (b) the substantial costs of maintain quality (ISO 17025 *etc*) are not calculated; (c) depreciation and replacement equipment costs are left out; not to mention (d) the potential for bias when (perhaps understandably) these in-house resources confound the duty to the investigation and their duty to the courts and (e) where forensic suppliers are counted upon to accept “overflow” work caused by these arrangements.

Quality Regulation

2.3 Having already commented that over half of the forensic provision is provided (at higher cost) in-house, the risks associated with quality regulation should be made very clear. As things currently stand—the external Forensic Providers are, quite correctly, subjected to the scrutiny and audit of the Forensic Regulator and the expense of maintaining quality standards; for example ISO 17025 accreditation. Although a few police forces possess 17025 for parts of their forensic process these are (a) in the minority, (b) subjected to few (if any) external quality review, (c) on the whole unfettered by either Home Office; HMIC or Forensic Regulator who

my research indicates is “...*looking at the feasibility of a bolt-on enhancement and inspection could be devised to cover field testing and work carried out ‘in house’*”. Surely this points towards there being a standard for one and a standard for another particularly as the Regulator has limited/no powers of intervention—as the in-house service delivery model grows.

Potential for Bias

2.4 By way of illustration, as recently as 8 February 2011 (This is London) Professor Peter Furness (head of the Royal College of Pathologists) cited allegations of a systematic attempt to intimidate pathologists from presenting their honestly held views to a court. Doctors say senior officers have sought to undermine them in their role as expert. The risks associated with presenting unbiased opinion are significant as noted in the cases of³⁶ Shirley McKee, or Brandon Mayfield, who had been wrongly identified through fingerprints in the Madrid bombings. Further examples of in-sourcing, moving towards the US model of forensic delivery are highlighted in appendix (a).

2.5 Whilst remaining positive on the future of a competitive market; however the situation where police become both customer and supplier is, in my view, the not a good solution for the effective delivery of forensic science and service to victims and defendants. As noted by HMIC in 2010, wide ranging variation continues to exist in terms of spend per detection so clearly some forces are able to deliver better value and thus private sector competition for police contracts is not, in many instances, the only factor enabling forces to achieve greater efficiency.

3. What is the financial position of the Forensic Science Service?

3.1 Reviewing the annual reports and accounts of the FSS suggests that revenue decreased by £37 million from £148 million in 2006–07 to £111 million in 2009–10—25% reduction. Little more can be said concerning this apart from continued Government subsidy may be seen as unreasonable by the private sector suppliers on the other hand, as overall, police spending grew in real terms from £9.8 billion in 1999 to £14.5 billion in 2009 (Independent Centre for Crime and Justice Studies 2009) the entire forensic market reflects a fraction of the total cost of policing.

4. What is the state of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the Forensic Science Service and the volume and nature of the forensic work carried out by police forces?

4.1 There are few misgivings in the ability of private sector providers to provide support as the forensic market is changed although this will not be without some difficulty and risk. The real issue here is that forensic science ought:

- (a) Originate from the principles of best evidence for victims of crime and the scientists primary duty to the Court—not necessarily the least expensive or condensed.
- (b) To be practised by qualified, experienced and impartial forensic scientists. The distinct possibility that police service could fail to deliver improvements in offences brought to justice, reductions in ineffective trials will lessen improved public confidence, provide a lesser service to the criminal justice system and, above all, victims of crime.
- (c) Regulated (from the outset) by the same quality standards set out by the Forensic Science Regulator—namely ISO/IEC 17025 etc. Noting the scope of the proposed codes of practice (<http://www.homeoffice.gov.uk/publications/police/forensic-science-regulator1/quality-standards-codes-practice?view=Binary>) is set out by the Forensic Regulator. Preliminary work is underway to look at the feasibility whether a bolt-on enhancement and inspection could be devised to cover field testing and work carried out “in house”.
- (d) Independent and available to both prosecution and defence.
- (e) Forensic exhibits/cases are presented as a whole and not cut back inappropriately in order to meet arbitrary financial limits—thus making the correct interpretation of evidence unachievable. Sustained legal challenge could seriously undermine the value of forensic evidence balanced against costs per case and/or trial.

5. What are the alternatives to winding-down the Forensic Science Service?

5.1 Continued subsidy is likely to be viewed as inequitable and one-sided to private sector forensic suppliers and may, in itself, lead to the departure of private investment. Whatever solution is preferred, internalising these resources to the police service will simply provide Government funding via an alternative route. Looking forward—there appear a number of possible outcomes.

³⁶ Shirley McKie is a former Scottish police detective who was wrongly accused by fingerprint analysis staff of the Scottish Criminal Record Office (SCRO) of leaving her thumb print on the bathroom door frame of a murder crime-scene in Kilmarnock, Ayrshire, on 14 January 1997. She denied she had ever been in the house of murder victim Marion Ross, but Detective Constable McKie was initially suspended, then sacked, then arrested by Strathclyde Police in 1998, and tried and acquitted in 1999. A scandal subsequently developed because of allegations of misconduct on the part of the SCRO and the police.

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Possible scenarios looking ahead

5.2 The implications of closure would suggest that the take up > 60% of the market share might follow four scenarios set out below:

- (a) Delivered by the existing forensic service providers; at the same time noting the high dependence on police customers; some services may not be commercially viable yet still required. Moreover—the decision to invest is both high risk (to suppliers) and potentially low margin with them being asked to support a fragile forensic market which (a) is contracting due to lower levels of crime, (b) increased screening and in house testing and (c) that alternative approaches to crime investigation are not costed in the same way (as forensic science) and therefore appear free at the operational level. This, as noted by Tilley and Ford 1994) distorts the customer perception on the utility of forensic science.
- (b) Attracting new suppliers into the market place to take up this margin—noting the size of investment required to provide a commercially viable laboratory. Particularly noting the undesirable consequences noted by Touche Ross(1987) concerning “payment by usage”—namely (i) police decisions to use/not use forensic science on economic rather than operational grounds, (ii) police decisions to use the cheapest service or set up their own laboratory at the expense of quality and service.
- (c) Some (particularly larger) police forces in-sourcing a proportion of these examinations. The deficiencies of this option outweigh all others in that (a) The Royal Commission on Criminal Justice (1993) noted that laboratories should look upon themselves as equally available to the prosecution and defence. Likewise, Dainton (House of Lords Select Committee on Science and Technology 1993) highlighted the hazards associated with “DIY” forensic science by the police. Those whose corporate memory extends pre 1995 will recall the lengthy turnaround times, lack of mechanism to match demand with supply and communications difficulties (as set out in the joint Home Office MPS review of the Metropolitan Police Forensic Science Laboratory 1994).
- (d) A combination of a–c but particularly (with c) one needs to look at the guiding principles adopted in the USA where forensic services are largely provided by police laboratories and failure to acknowledge uncertainty in findings is common (Strengthening Forensic Science in the United States: A Path Forward—2009). Likewise—The Innocence Project has documented instances of both intentional and unintentional laboratory errors that have lead to wrongful convictions (available at www.innocenceproject.org/Content/312.php).

6. *So far as they are known, are the arrangements for closing down the Forensic Science Service, making staff redundant and selling its assets adequate?*

6.1 These are unknown at present.

Robert Green OBE

14 February 2011

APPENDIX A

1. <http://www.thejusticeproject.org/wp-content/uploads/forensics-fin.pdf>
2. <http://www.forensic-pathways.com/PDFs/JFI.pdf> Improving the Practice and Use of Forensic Science—A Policy Review “... *States should ensure that all forensic laboratories are independent from law enforcement and prosecutorial agencies*”.
3. http://open.salon.com/blog/johnterzano/2008/10/06/crime_labs_expose_preventable_forensic_errors Houston, which has had its own problems with crime lab errors, has been closed three times due to numerous forensic science flaws including loss and contamination of evidence to improper testing procedures and misread test results that have led to three wrongful convictions.
4. <http://www.whistleblowersblog.org/2009/03/articles/forensic-justice-1/16-years-after-the-whitehurst-revelations-forensic-science-still-tainted/index.html>
5. Back in 1993, world renowned FBI scientist Dr. Frederic Whitehurst brought to light astonishing deficiencies and scientific fraud at the FBI Crime Lab. These allegations would lead to a massive reform of forensic science at the FBI. <http://www.thejusticeproject.org/blog/crime-labs-expose-preventable-forensic-errors/>
 - (a) Hundreds of thousands of backlogged and delayed requests for analysis.
 - (b) A lack of certification and accreditation standards leading to inconsistencies between federal, state, local governments.
 - (c) Hundreds of convictions have been based on flawed science.
6. Police crime labs in both Detroit and Baltimore have recently come under fire for shocking errors discovered in the testing, analysis, and use of forensic evidence. Last week the Detroit police crime lab was shut down after an audit in June of the ballistics division revealed a 10% error rate in 200 firearms cases they reviewed. A fear that this error rate pervaded all divisions was the main reason for the closure of this chronically

under-funded and over-worked lab. The discovery in the ballistics divisions has put the integrity of all forensic evidence testing and analysis in Detroit at risk. And the ramifications of the lab closure could be far-reaching. Innocent people may have been wrongfully convicted from flawed forensic evidence leaving dangerous criminals free to commit more crimes.

7. From <http://www.shirleymckie.com/documents/FINALREVISEDVERSIONIIL.pdf>. It is submitted that, notwithstanding the efforts of some witnesses to claim the SCRO worked independently from the police, the evidence has shown that in reality there was a close working relationship between them. There has been a total failure over the last 12 years to effectively resolve the misidentifications, and for anyone to accept any responsibility for the errors. The cultural difficulties have not been addressed, and independent assistance should be sought to ensure that appropriate changes are made and staff with divergent views are integrated into the organisation. There has been evidence that the senior experts like Hugh Macpherson and Charles Stewart were held to be above reproach, and the Quality Circle minute 21 shows evidence that the younger experts were unhappy with being asked to "push the points" but that their complaints were not being taken seriously.

8. <http://www.sciencedaily.com/releases/2005/09/050913124509.htm> While forensic scientists have long claimed fingerprint evidence is infallible, the widely publicized error that landed an innocent American behind bars as a suspect in the Madrid train bombing.

Written evidence submitted by Abigail Snasdell (FSS 64)

1. INTRODUCTION

I am writing to you to express my concern and horror at the proposed closure of the FSS. I wrote to the Committee at the beginning of January to highlight this issue and I am delighted that you have announced an inquiry.

2. DECLARATION OF INTEREST

I am employed by the FSS at their London laboratory as a Senior Forensic Scientist. I specialise in the examination of firearms, ammunition and related items and in the interpretation of firearms related damage and gunshot wounds. I have specialised continuously and exclusively in this field since November 2001, having joined the FSS in September 2000 in their Evidence Recovery Unit. I am also a guest lecturer for the "Fibres, Firearms and Fire" module of the BSc degree course in Forensic Science at Kingston University and for the "Criminalistics" module of the BSc degree course in Forensic Science at the London Metropolitan University. I am a published author in my field and I am a member of the Association of Firearm and Tool Mark Examiners, the Forensic Science Society and the British Academy of Forensic Sciences. However, it should be noted that the thoughts and opinions expressed in this submission are my own and I do not speak on behalf of the FSS. I work under my maiden name Abigail Hannam.

3. BACKGROUND

I feel it should be said from the beginning that I believe the FSS needs to change as it has been run inefficiently for several years. Its current structure has become exceedingly top heavy with ridiculous layers of unnecessary senior management. As such the FSS was going through a thorough, planned and Home Office agreed transformation process when the closure announcement was made. This has led to the stream lining of the company resulting in the closure of four sites. This was agreed with the previous Government, who also gave the FSS grants to achieve the transformation. Indeed, I understand that ministers of the coalition Government visited the laboratory recently and commended the senior management team on the transformation process and how well they have done and that they were impressed that the FSS was actually ahead of the planned timescales for the project. Why has the FSS not been given the opportunity to show this has worked? Surely it would have been beneficial for the UKCJS to allow this transformation to be completed? It is frustrating and disappointing that this transformation process has not been able to prove itself before the Government made this unilateral and unconsulted decision. In addition to the structure of the company, there are several other important reasons why the FSS is not making any profit: (a) it has been left with the cost heavy, time consuming forensic disciplines since competitors have lured away the more lucrative work, (b) it invests heavily in research and development and is a world leader in forensic technology, (c) it has had the financial burden of extensively training staff. Becoming a qualified forensic scientist, especially one who can attend and report scenes, can often take up to eight years, sometimes longer. Competitors who deliberately poach FSS staff have not had to invest in this training. If none of the above is now going to be carried out by the FSS, who will do it?

4. THE FORENSIC MARKETPLACE IN ENGLAND AND WALES AND ITS EFFECT ON THE UKCJS

My greatest concern is who will carry out the forensic science provision in the absence of the FSS? Surely the 120,000 cases a year we deal with must be carried out by someone else in the future? The alternative that it just falls by the wayside is simply too horrendous to contemplate. The Government has said that it would like this work to be done by private companies. However, it appears that the current private companies do not

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have the money to take us on—LGC Ltd (the largest private company) was recently made to transfer staff from the London FSS Drugs department under the Transfer of Undertakings (Protection of Employment) Regulations as they won the Metropolitan Police drugs contract. They could not afford to keep them and so made them redundant on their first day of work at LGC. Incredibly this redundancy bill was paid by the Met itself! If companies like LGC do not have the resources to employ the staff from the FSS to do the work that we currently do, who is going to be able to? The profitable work has already been taken by competitors, what has been left behind are the unprofitable, time heavy disciplines such as firearms, fire investigation, document examination, fibre analysis, blood pattern analysis etc. These disciplines are often at the core of high profile, violent crime investigations and must be maintained. Which private company is going to offer to do them on the scale that the FSS does? The fact that the FSS has failed to become a profitable company has proved that “forensics for profit” does not work. Why then is the Government pushing forensic science even further down the road of privatization? Forensic science is fundamental to the provision of justice. It is a necessary service not a luxury. Some things should not be seen as a commodity, sold to the highest bidder. This slapdash, let's make as much money as possible, approach will only lead to the fragmentation of forensic provision in England and Wales. This in turn will have disastrous effects on the UKCJS. The reason why no other country in the world has gone down this road is because it simply does not work. It should be stopped immediately.

5. “IN-HOUSE” POLICE FORENSIC DEPARTMENTS

If the Government does not want to have any role in the provision of forensic science why then is it allowing the proliferation of Police “in-house” forensic departments such as the Metropolitan Police Service Forensic Firearms Unit (MPSFFU)? The Government is very much paying for these via the Police budgets. These “in-house” departments only serve the Police Forces that they sit in. Surely closing these departments rather than the FSS would free up significant amounts of money which could be diverted to the FSS, a company which does not discriminate against any Police Force or any organisation and which covers the whole of England and Wales. With the current model of forensic provision, if the various non-financially attractive disciplines described previously are not bought by the private companies the Government refers to, then the work will have to be done by these “in-house” Police forensic departments. This will ultimately lead to a postcode lottery of forensic provision as the smaller forces will not be able to afford to set these up. The criminals will fast catch onto this and will know where they are less likely to get caught. Closing these “in-house” departments will also tackle the problem of the perceived lack of partiality of police employees carrying out the forensic work of police-led investigations. The FSS was originally set up to not only create a forensic marketplace, but to also be an independent provider to the UKCJS, to introduce distance between forensic scientists and the police investigators. Impartiality is at the very core of any forensic investigation. Why are we risking going backwards to the days of miscarriages of justice? Only a few weeks ago a story broke about the suppression of police evidence involving under-cover police officers. Can the Government be 100% sure that forensic evidence provided by an “in-house” department will not be suppressed if it does not suit the Police investigation?

6. FRAGMENTATION OF FORENSIC SCIENCE

Customers come to the FSS knowing that every single aspect of their case can be investigated, whatever the discipline(s) required. There is no need to go to other providers as the FSS is the only company that can carry out ALL aspects of forensic investigation. This will now be fragmented, with different providers doing different parts of the case. Where will the quality assurance be? Where will the consistency be? Will the other providers, including the “in-house” Police departments, be UKAS accredited to ISO17025? What standard operating procedures will be followed? What competency testing will be carried out? Will blind quality trials be carried out? Will they be regulated like the FSS has been? Who really will be experts and who will be merely imitations? What level of security clearance will scientists at these commercial providers have? Currently all members of the FSS firearms department are cleared through the Home Office Departmental Security Unit to SC level. This allows us access up to SECRET and supervised access to TOP SECRET assets and therefore allows us to work on the most sensitive of cases.

7. MAXIMISING EVIDENTIAL VALUE FROM EXHIBITS

The FSS routinely do many joint examinations on items involving scientists from different disciplines examining the *same item at the same time*, eg firearms, biology, gunshot residues, fingerprints, toolmark examiners, fibres etc. Following the inevitable fragmentation of forensic science how will these essential joint examinations now take place between different providers? These examinations need to continue to occur so that different evidence types are not lost during examinations and the evidential value of each exhibit is maximised.

8. ANTI-TERRORIST AND COMPLEX CASEWORK

What will happen in the event of another serious terrorist attack in the UK? The recent London bombings were dealt with by the FSS. Biologists put their lives on hold, camped up in the hotel next to the lab and worked round the clock to enable the work to get done in a speedy fashion. This, along with work in other departments, allowed the supply of fast, accurate and impartial intelligence to the police so that they could prioritise their investigations and focus on bringing the perpetrators to justice. One has to ask oneself if a

private company that is only interested in base-line profits would do the same? I strongly suspect not. This sort of work should transcend money and profitable margins. We are told on a daily basis that we are at an ever-increasing threat from terrorism. How ironic, and incredible, that at the time the national security level has been raised to “severe” the most important provider of forensic terrorist investigation is to close. What provision has been put in place for the forensic investigation of terrorist activity? SO15 and SOCA do not use the “in-house” Met forensic department, they use the FSS. Who will they use now? How could a new company or an existing company that is new to forensic terrorist investigation be the best placed to carry out this work? Surely what the country needs at times of such devastation are a safe pair of experienced cohesive forensic hands, a company that employs the most eminent and senior forensic scientists in all disciplines within the UK, not companies that employ the least experienced because they are cheaper.

9. FIREARM RELATED TERRORIST INCIDENTS AND POLICE FATAL SHOOTINGS

What if the next terrorist attack is in the style of the recent Mumbai-shooting rampage? The MPSFFU can not offer scene or post mortem coverage as they do not have the relevant competencies to do this work. The firearms examiners at the FSS can, and do, offer a 24/7, 365 day scene/post mortem call out rota. The FSS is currently the first, and I suspect only, point of call for all terrorist forensic investigation, especially firearms related incidents. Whenever a policeman or woman fires a shot, whether fatal or otherwise, the IPCC will at some point be involved in the investigation. This is becoming an ever-increasing occurrence. For reasons of perceived impartiality, the MPSFFU are currently not allowed to be involved in any Police case where the IPCC are involved. This is currently done by the FSS. Who will do this work now? These cases are usually very high profile (in recent years the cases of Mark Saunders and Raoul Moat immediately spring to mind) and again surely their investigation warrants the attention of experienced and knowledgeable firearms examiners, not newcomers to the field.

10. POSITION OF THE FSS IN EUROPE AND THE REST OF THE WORLD

The FSS is ingrained into the European forensic community. Indeed the current ENFSI (European Network of Forensic Science Institutes) Expert Working Group—Firearms/Gunshot Residues chairman is Mark Mastaglio, the Firearms Principal Scientist of the FSS. We have contributed significantly to the introduction and development of forensic practice throughout Europe. Who is going to continue to represent the United Kingdom within Europe once the FSS is gone? There is a free flow of intelligence, research and development, advice and knowledge across the continent. This would and could not happen with a purely private, commercially driven, company. The UK will simply be left out of the loop. What a travesty for a country that was a world pioneer. Indeed, it is not just within Europe that the FSS is interwoven into the fabric of forensic provision; it has contributed greatly to the training of forensic scientists around the globe and in setting up forensic institutions. I personally have been involved in the training of scientists from Abu Dhabi in the field of firearms. Other colleagues have been seconded to Trinidad and Tobago to help clear backlogs of firearms cases and set up a more streamlined firearms department. These are just two of many examples. DNA products and software that have been pioneered and developed by the FSS are in use worldwide. Who is going to continue with this important work once we are gone? Within the firearms section FSS scientists have been integral to many complex international investigations such as those in Afghanistan, Jamaica, Kosovo, Somaliland, Kenya, Brunei, British Virgin Islands, Pakistan, Sri Lanka and Iraq. Who will do this once the FSS has gone? It is highly likely that foreign Governments and international organizations like the UN will be reluctant to solicit the help and advice of purely private, profit driven, companies.

11. COLD CASE REVIEWS

What will happen with cold case reviews? Currently the FSS is heavily involved in this process in both an investigative capacity but also in developing new forensic tools at considerable time and expense to advance the field and therefore allow the re-examination of exhibits from the original submissions. Who is going to be able to do this once the FSS is gone?

12. PRACTICALITIES

Has any consideration been given to the practical ramifications of this decision? Where are the millions of FSS casefiles going to be housed? Where are the millions of retained FSS items going to be housed? How are expert witnesses going to be contacted in the future when they are needed at Court? How will the experts get their files? Where will the cases that have been completed on our newly introduced electronic casefile system (eCase) be stored? How will we access eCase in the future when the files needed to be printed for Court? Is the current eCase technology future-proof so that there will still be ways of accessing this electronic data in decades to come if there has been no IT development of the system?

13. PERSONAL

I entered into this career as a vocation and I thoroughly enjoy what I do. It has never been about money, and it is extremely disheartening to see that the work that myself and my hard working colleagues do has been reduced to merely to pounds and pence. I worked hard to join the FSS having spent a total of five years at University gaining a BSc (Hons) degree in Experimental Pathology and an MSc degree in Forensic Science.

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To think that in a maximum of 13 months I could be made redundant fills me with great sadness. The FSS was once a great service to work for with an international reputation for excellence, however it feels that the ethics of this service have been eroded away and the emphasis is now on targets, profits and chargeable hours. It is my opinion that “forensic science for profit” does not work and that the FSS worked best when it was an Executive Agency of the Home Office. We were close enough to the Home Office to be strictly regulated, but we were independent of the police so that we were rightly perceived by the UKCJS as being impartial. I implore you to research the option of returning the FSS to an Executive Agency.

14. PETITION

May I also take this opportunity to bring your attention to a petition that has been set up to help save the FSS—<http://www.petitionbuzz.com/petitions/savethefss>. At the time of writing this submission there were 24,590 signatures. This demonstrates the level of feeling there is against the closure of the Forensic Science Service and should not be overlooked.

15. SUMMARY

The expertise that the FSS holds within its staff is world class. The training and experience that it provides its staff are second to none. The research and development it has carried out, and which it continues to do, has greatly added to the tools available to those investigating serious crime. It is a national asset that is fundamental to the proper investigation and prosecution of crime in this country. If the FSS were to be abolished then that experience, that expertise, and that ability to train and to perpetuate and to improve upon that expertise, would be spread to the winds. One accepts that some of the experts will be employed by different companies, or soldier on in private practice, but the strength of the organisation would be lost. Once such an institution is gone it is nigh on impossible to rebuild it in the future as the skills are lost. The result is that the state is deprived of the capacity to properly investigate and to prosecute crime. I hope the Committee agrees and finds in favour of keeping this fine bastion of forensic science.

Abigail Snasdell

9 February 2011

Written evidence submitted by The Forensic Institute (FSS 65)**1. INTRODUCTION AND BACKGROUND**

1. The Science & Technology Committee has invited responses to its inquiry into the closure of the FSS Ltd.
2. This response is made on behalf of The Forensic Institute, and as such, sets out some background material as to the role of the defence expert, and discusses how the proposals are likely to relate to the policy and practise of providing a defence perspective in forensic science.

2. SPECIFIC RESPONSES

2.1 What will be the impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?

3. There is no doubt that the loss of scientific posts is generally a bad thing, and the Forensic Institute regrets the implications for many of the staff of the FSS Ltd. However, much of the, sometimes ill-informed, outcry has been based on the premises that whatever research was provided by the FSS is irreplaceable and that the FSS Ltd scientists are immune from influence in casework whereas other commercial providers can be pressured into biased decisions.

4. It should not be forgotten that the UK is not the only country involved in forensic science research. The recent US report has stimulated the government there to earmark considerable funds to such research, which can be expected to be made available by the normal scientific communications.

5. *“In FY 2010, NIJ provided over \$30 million in grants to fund research and development projects related to forensic science and the criminal justice system. The expected number of awards is 100.”³⁷*

6. In our experience, the recent much-lauded FSS Ltd research (for example, on Low Copy Number or LCN DNA profiling) has not been subject to proper scientific scrutiny. This scrutiny is made even more difficult by the resistance of the FSS Ltd to disclose data and, even when disclosure is forced by the Courts, the insistence that the data cannot be disclosed to the scientific community.

7. *“In a more recent case we discovered that the FSS Ltd have now performed dilution studies similar to those we suggested. We cannot publish or illustrate these as they were disclosed under confidentiality agreements insisted upon by the FSS Ltd. Again, we are the only organisation that we are aware of to have sought and obtained disclosure of this data which is essential to understanding the reliability of the technique being used in criminal cases.*

³⁷ <http://informer.ogrd.wsu.edu/Opportunity.aspx?ID=6023>

8. *Similarly, the FSS scientists have claimed in high profile cases, despite the expectation of obtaining mixtures using the LCN technique, that mixture studies were unnecessary. We obtained disclosure of all of the mixture studies now recently performed by the FSS Ltd. They are also subject to a confidentiality agreement.”*³⁸

9. The resistance to disclosure has been a source of comment in prestigious scientific journals such as *Nature*,

10. *“Critics” fears are confounded by an unwillingness of the labs that use the technique to reveal their guidelines for interpreting results. Labs should be forced to disclose details, says Budowle. Given the technique’s reproducibility problems, he argues it is imperative that these protocols are robust and reliable. But “none of the labs disclose what they do. They say it is proprietary information,” he says.*

11. *The FSS did not respond to several interview requests, but Peter Gill, a forensic scientist at the University of Strathclyde in Glasgow, UK, who developed low-copy-number typing in a former post at the FSS, says that the quality of the science “is not in question”.*³⁹

12. This is not to denigrate the contribution to forensic science that the Home Office laboratories which became the FSS Ltd have made to forensic science. Given the size and role of the FSS Ltd, that should not be surprising. It is also a sad fact that no government has made any plan to replace or expand research in forensic science, as recommended for example by the Forensic Science Regulator’s review of Low Template DNA Analysis. A different and adequately funded strategic approach to forensic science research, including standards development, would be a positive development. We have already criticised the current mechanism⁴⁰ whilst highlighting its positive aspects.⁴¹

2.2 What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

13. In short, none.

14. The Forensic Institute has been involved reviewing the scientific work of the prosecution in thousands of cases; we are commissioned by the defence to examine cases involving the FSS Ltd and other commercial suppliers to the police. In our view, the other commercial suppliers of forensic science provide standards of scientific analysis and interpretation that at least equals, and in our opinion in several areas is superior to, those provided by the FSS Ltd. Many of these other commercial suppliers, including ourselves, are involved in scientific research and development.

15. Last year’s authoritative report from the National Academy of Sciences of the USA⁴² on forensic science identified a serious lack of science in many forensic “sciences”. Some have been exposed in recent court cases (eg *R v T*).⁴³

16. It cannot be known whether any provider has met the scientific standard if there is no scientific research to measure the standard against. Perhaps properly funding this essential research is the obvious, logical, and necessary step to prevent the feared decline of standards in forensic science. This should be the principal government aim rather than supporting any company that is quite clearly a business subject to the same influences as its competitors.

17. Other countries, such as Australia and the USA, have already recognised the need for a strategic approach to forensic scientific research. The Forensic Institute instigated and support a network of UK universities in the Forensic Institute Research Network (FIRN)⁴⁴.

18. *“The Forensic Institute is committed to the improvement of the science of forensic science and its presentation in Court. We have a number of programmes encouraging and assisting research and development in current and new areas of science which will have forensic applications. We created The Forensic Institute Research Network (FIRN) which is an international collaboration of universities created in 2004, with the single aim: “To improve the quality and quantity of forensic science research and teaching.”*

19. There has been a well-publicised increase in the number of universities offering forensic science courses. Many of these are well placed to perform research via numerous student and staff projects which, to date, have had no strategic purpose or direction. The FIRN management board have attempted to create some strategic approaches in, for example, DNA transfer and creating an open-access repository for such research. For example, a Staffordshire University project investigated some issues surrounding the creation of a national fibres database⁴⁵.

20. It is our view that a strategic approach and specific funding for forensic science research will provide the UK with, in conjunction with the considerable amount of work being performed elsewhere, the essential

³⁸ <http://www.theforensicinstitute.com/news/low-copy-number-dna-and-the-forensic-institute.html>

³⁹ <http://www.nature.com/news/2010/100317/full/464347a.html>

⁴⁰ <http://www.nature.com/nature/journal/v464/n7293/full/4641266b.html> and <http://www.theforensicinstitute.com/research-network/Nature-letter-April2010.htm>

⁴¹ http://www.publicservice.co.uk/article.asp?publication=Home%20Affairs&id=442&content_name=Forensics&article=14614

⁴² http://www.nap.edu/catalog.php?record_id=12589

⁴³ <http://www.theforensicinstitute.com/Articles/Commentary%20on%20RvT.htm>

⁴⁴ <http://www.theforensicinstitute.com/research-network/index.html>

⁴⁵ http://www.staffs.ac.uk/assets/national_trace_tcm44-12739.pdf

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research underpinning the science used in courts. It is not necessary that work is performed by a forensic science provider to the police service, but it would be hoped that those providers would cooperate with researchers in a way that has so far not been done.

21. *“Forensics has developed largely in isolation from academic science, and has been shaped more by the practical needs of the criminal-justice system than by the canons of peer-reviewed research. This difference in perspective has sometimes led to misunderstanding and even rancour. ...*

22. *Many academics are also perturbed to see newer techniques, such as DNA analysis of extremely small samples and functional magnetic resonance imaging, being pressed into service before the results and interpretations have been adequately validated for forensic use.*

23. *Forensic scientists, meanwhile, are often resentful of academics who speak high-mindedly of proper procedures now, decades after standard operating procedures have been put in place. They also bristle at being criticized by people who offer little in the way of support for forensics-relevant research. Perhaps not surprisingly, many practitioners have closed themselves off from any open sharing of methods and information with the academic community. ...*

24. *A welcome approach to mending this rift between communities is offered in a report last year from the US National Academy of Sciences. Its central recommendation is that the US Congress create a National Institute of Forensic Science, which would have strong ties both to academic science and to forensic practice. In the short term, this institute would help to establish standards and accreditation procedures and provide independent support for existing forensics entities. In the long term, it would provide funding to develop strong research programmes in forensic sciences. Such national leadership is particularly important given the highly interdisciplinary nature of forensic science, which has made it hard for the field to coalesce on its own.”⁴⁶*

25. Professor Jamieson’s letter to *Nature* highlighted the need to involve the wider scientific community in this effort,

26. *“The introspective and isolated position of forensic science within the United Kingdom is further shown by its removal from the Science, Engineering and Manufacturing Sector Skills Council. Forensic science has been placed, instead, within the Skills for Justice Sector Skills Council, where it is the only “scientific” component—thereby removing an opportunity for external scientific scrutiny.”*

2.3 *What is the state of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the Forensic Science Service and the volume and nature of the forensic work carried out by police forces?*

27. There are a number of firms who have already expressed an interest in competing for, or are currently performing, scientific work for the police. There is no reason to believe that the opportunities in this market will lessen with the closure of the FSS Ltd.

28. There is no reason to expect that, if properly managed, this market cannot deliver the required service at a fair price.

29. Professor Jamieson has written,

30. *“It is clear that the issues identified in forensic science have been there for some time and, according to the US report, “...the courts have been utterly ineffective in addressing this problem.”*

31. *That being the case, one might expect the regulator to incorporate robust external scientific advice in the development of technical standards for forensic science. The lack of this external input has prompted recent criticism in one of the world’s most prestigious scientific journals, which followed specific criticism of the application of fingerprint assessment generally, and LCN in the UK. However, although external input is desirable, the Regulator has included all of the main suppliers within his Advisory Council. This should ensure that the suppliers have a common framework that will avoid the danger of cost reduction having a deleterious effect on service standards. In that regard, the Regulator’s duty to develop appropriate standards for the delivery of services to the police should protect and, in time, enhance the quality of service. The principle is the correct one, although the practice may require development. In the alternative, still practiced in some jurisdictions, the system is budget-based and quite insensitive to service demand. The consequence can be backlogs, stressed staff, frustrated clients, and inadequate financial and other information necessary to provide a rational basis for future resourcing, whether acute or chronic.*

32. *The triad of purchaser, provider, and quality assurer can be an effective means to achieve cost-effective delivery of public services generally. Quality assurance standards for key services should be addressed to mission-critical outcomes independent of cost considerations; it is for suppliers to design cost-efficient processes that meet the agreed standard. However, in circumstances where the purchaser is buying a technically complex product, it is important that they have independent advice on the required technical standard of the service. That independence cannot be guaranteed to come from the suppliers of the service, individually or collectively. This must be especially so when the very product that is being, and has been, provided has been subject to authoritative criticism. The introduction of a forensic regulator is a positive step in the provision of*

⁴⁶ <http://www.nature.com/nature/journal/v464/n7287/full/464325a.html>

quality assured forensic science to law enforcement; time will tell if the scope and practice go along the right road."⁴⁷

33. If there is a mechanism for the maintenance of whatever standards exist, and there is, the issue is how the police ensure that they achieve maximum value for the public money that they spend. Cheapest is not always best, but neither is it always the worst. It is not our experience that commercial suppliers to the police provide either poorer science, or are any more or less subject to bias in interpreting scientific results than the state-owned providers. There are good and bad case examples in both. There is no sensible basis upon which to conclude that British, or more accurately English and Welsh, justice will suffer.

3. APPENDIX—THE FORENSIC INSTITUTE

34. The Forensic Institute is a private firm which, in addition to its own four staff based in offices in Glasgow, has an international network of experts and organisations that provide a comprehensive scientific and medical service to the legal profession in all of the jurisdictions of the UK and have performed work in other countries including Australia, USA, Egypt, and New Zealand. The Institute provides scientific and medical advice and training relevant to civil or criminal justice matters. The Institute is not based in a laboratory but can, and does, contract analytical services if necessary.

35. The Institute is normally instructed by the defence to assess the merit of the scientific evidence in criminal prosecutions. It is commonly accepted that all experts should be impartial participants in the legal process, whether they are retained by the prosecution or the defence. This view is strongly endorsed by The Institute.

36. Our service model is perhaps fundamentally different to the traditional approach, in which a single defence expert deals with a single aspect of a case. The Institute specialises in assessing multi-disciplinary and, frequently, complex cases involving multiple evidence types. We have extensive experience of reviewing and challenging in detail the work of forensic practitioners and forensic science in a variety of disciplines.

37. Professor Jamieson served on the Lead Body and Sector Skills Committee for Forensic Science, which developed the first suite of National Occupational Standards for Forensic Science. He also chaired the Standards Committee of the Forensic Science Society, served on the SEMTA committee investigating the link between education and employment in Forensic Science⁴⁸ and, as Head of Forensic Science for Lothian & Borders Police, was a member of the Consultative Forum which created the Council for the Registration of Forensic Practitioners (CRFP). He is one of two Editors in Chief of a 5-volume Encyclopaedia of Forensic Sciences published by Wileys.

3.1 Purpose of the Defence Review

38. The Forensic Institute maintains that the main purpose of a competent scientific defence expert is, rather than to simply repeat the Crown tests, to review the processes, procedures, and conclusions of the prosecution experts. The main components of a thorough and competent defence review are verification of the results obtained by the Crown, and discovery of any other information relevant to the defendant's case.

3.2 Assessment by the Defence

3.2.1 Individual

39. Individual experts, with expertise in particular areas, will contribute to either the overall consideration of the case, or to specific reports on their area of expertise.

3.2.2 Collective

40. Most cases involve discussion and input from other scientists, usually on the particular science applied to testing, and on the interpretation within the opinion. The Institute staff collectively discuss and peer review cases, case briefings and statements, and also reports received from other consultants, prior to sending these to the instructing lawyer. This is a form of quality assurance and may involve experts across the world.

3.2.3 Reports and briefings

41. The main output of all of the above is a collection of data, briefing papers, and reports that enable the assessment of the work performed to derive the opinion expressed in prosecution reports and, where appropriate, to form the basis for other expert reports which may challenge those opinions.

42. The final output is in the form of briefing papers and reports to instructing lawyers or Counsel. In some cases the briefings or reports may concur with the methods, interpretations and evaluations employed by the

⁴⁷ Public Service Review: Home Affairs – Issue 21 http://www.publicservice.co.uk/article.asp?publication=Home%20Affairs&id=442&content_name=Forensics&article=14614

⁴⁸ **Forensic Science: Implications for Higher Education 2004** http://www.heacademy.ac.uk/assets/ps/documents/forensic_science_implications_for_higher_education_2004.pdf

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prosecution experts, in other cases there are differences between the prosecution and defence conclusions. When required, experts from The Forensic Institute give evidence in court.

Professor Allan Jamieson

Director

The Forensic Institute

14 February 2011

Written evidence submitted by Ian Kirkwood (FSS 67)**WHO WILL BE LEFT TO PLAY CARDS?****DECLARATION OF INTEREST**

1. I am an employee of the Forensic Science Service, currently holding the post of Head of Policy and Criminal Justice Requirements within the Office of the Chief Scientist. Any views expressed in this submission are my personal views.

2. I joined the Central Research Establishment of the Forensic Science Service in Aldermaston, Berkshire on 28 October 1985. By 1987 I had taken up an operational role based at the Wetherby Laboratory in West Yorkshire. I was an operational forensic scientist until 2000, after which I took on a customer relationship management position. My present role includes [but is not limited to] responsibilities to the Criminal Cases Review Commission and to facilitate and manage post conviction enquiries from the individuals concerned, their families and their legal representatives.

3. I wish to focus on a single aspect within the terms of reference to this inquiry, specifically "*What will be the implications of the closure of on the quality and impartiality of forensic evidence used in the criminal justice system*". My submission is in a narrative form which begins on the day I joined the Forensic Science Service and which ultimately, I believe demonstrates, the continued integrity and impartiality of forensic scientists employed by the Forensic Science Service for the greater good of the criminal justice system. It is my belief that undertaking something for the greater good will no longer be as prevalent, if indeed it is there at all, following the break up of the Forensic Science Service.

4. On the evening of 28 October 1985, Granada Television screened an investigative journalism programme called *World in Action*, which highlighted issues relating to the trial and subsequent conviction of a group of men known as the Birmingham Six. Their conviction in 1975 was based on confessions, circumstantial evidence and scientific findings. One of the issues given particular emphasis in the programme was the scientific findings relating to the swabbing of the hands of five men who had been stopped by Police in the North West, whilst travelling by train from Birmingham, on their way to Belfast. A forensic scientist had used the Griess test to determine whether or not these five individuals had handled explosives. Together with a sixth man, they had been collectively convicted of pub bombings in Birmingham on 21 November 1974, which killed twenty-one people and injured many more.

5. As a result of the television programme and the subsequent publication of Chris Mullin's book "*Error of Judgement*," the campaign for the release of the Birmingham Six gained momentum. The Controller of the Forensic Science Service commissioned a review into the application of the Griess test. The five men, who had been stopped by the Police in November 1974, had been playing cards during their journey. The scientific experts consulted by the production team for the *World In Action* programme showed that swabbing the hands of individuals who had played cards, produced positive Griess test results, thereby calling into question the scientific findings presented at the trial.

6. So it was that very early in my career in the Forensic Science Service I was asked, together with others, to take part in experiments overseen by senior forensic scientists based at the Aldermaston laboratory. Ostensibly my contribution was minimal; I was to play cards for a couple of hours, after which time my hands and the hands of my fellow card players, would be swabbed. The report subsequently prepared by my senior colleagues showed that contact with a wide range of nitrocellulose containing products including nitrocellulose coated playing cards, can all give positive responses to the Griess test.

7. The case was referred back to the Court of Appeal in 1987; however, the appeal was dismissed. Despite this setback, the campaign continued and following the presentation of new evidence, including a further FSS review of the forensic evidence, the Home Secretary referred the case back to the Court of Appeal. On the 14 March 1991, the six men were released.

8. Thus one of my earliest memories from my 25 year career with the Forensic Science Service is of its scientists employing their collective knowledge, wisdom and experience to ensure that the best interests of justice were served. Throughout, these [former] colleagues demonstrated an unqualified level of commitment, application, integrity and impartiality.

9. The Forensic Science Service in this period was an integral part of the Home Office; there were no private suppliers of forensic science to the Police Service.

10. More recently, I was part of a specialist group formed within the Forensic Science Service to respond to legal and scientific challenges to the validity of the FSS method for DNA profiling Low Template DNA (method often known as LCN or Low copy Number) and its acceptance by the Courts within this jurisdiction. These challenges in the Crown Court and Appeal Court included extensive, protracted and complex third party disclosure actions. Again, these [current] colleagues demonstrated levels of dedication and tenacity, which ensured that the Courts were well placed to determine an appropriate course of action. This team aimed to ensure that the forensic scientists employed by the Forensic Science Service were provided with the necessary support to deal with the case specific issues and those more general issues beyond the ambit of the individual case issues were properly managed.

11. Since 2007 there have been a number of challenges to the validation, admissibility and acceptance by the courts in the United Kingdom. The first significant challenge occurred in the trial of Sean Hoey (Neutral Citation No. [2007] NICC 49); others include R v Stretch and Puttock (Crown Court Reference T20087351) and the co-joined cases in the Appeal Court R v Reed, Reed and Garmson (Neutral Citation Number: [2009] EWCA Crim 2698).

12. In the appeal R v Reed & Anor, the Appellants sought to challenge the scientific findings and also the admissibility and propriety of the opinion of the forensic scientist employed by the Forensic Science service. It was posited that the use of the Low Copy Number DNA method is not based on sufficiently robust scientific research, nor is it validated and that the science of Low Template DNA is uncertain and unreliable. Further grounds were developed relating to the interpretation of DNA mixtures and a general failure to disclose material. Furthermore, that the forensic scientist from the Forensic Science Service should have limited the scientific evidence presented at trial to the scientific findings and should merely have provided an explanation of transfer mechanisms to the court, rather than to have provided an opinion. The emphasis within the Appellants argument was that the forensic scientist from the Forensic Science Service was just wrong.

13. In this period, the Forensic Science Service was no longer an integral part of the Home Office and operated within a competitive environment.

14. Nevertheless those same levels of commitment, application, integrity and impartiality so evident in the past, remained. Indeed, it would be fair to say that the Forensic Science Service committed substantial resource to ensure that the collective wisdom, experience and knowledge of some of its leading operational scientists were released to devote their time, sometimes exclusively, to the task, without any expectation that the expense of doing so would be recovered. The work of the Forensic Science Service paved and eased the way for other providers to offer similar techniques. However it is posited that without the expertise of those scientists representing the Forensic Science Service that the outcomes and impact of these cases might have been very different for the criminal justice system. Indeed it is difficult to highlight any technique offered by another provider which has not followed in the vanguard of the Forensic Science Service.

15. I understand that the Forensic Science Service is currently working to ensure that its archive of case file records (estimated to comprise in the region of two million individual case files) and dry and frozen retained material (numbering many millions of individual items) will be a legacy for the future benefit of the criminal justice system. Without an archive which is readily accessible to those with a legitimate right, the risks to the criminal justice system are all too evident.

16. Given that there is no profit to be made from investing the necessary resource to meet to such scientific and legal challenges, I remain unconvinced that private enterprise would be prepared to encumber themselves with such tasks. In the absence of a body such as the Forensic Science Service, who will be there to protect the interests of forensic science and take on the responsibility for the greater good.

17. What is also almost certainly true is that once the Forensic Science Service is broken up and its integrated network of collective experience and wisdom is lost, it will be irretrievable.

18. Will there be organisation in the future that will be willing, or indeed able, to play cards when there is a need to do so, for the greater good?

Ian Kirkwood

14 February 2011

Written evidence submitted by Dr S M Willis (FSS 68)

DECLARATION OF INTEREST

I am the Director of the Forensic Science Laboratory, Republic of Ireland.

For three years up to 2009, I was chair of the Association of Forensic Science Providers (AFSP). The views below are personal and do not necessarily reflect those of the AFSP. The mission and vision of AFSP is reproduced below for information.

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1. What will be the impact of the closure of the FSS on forensic science and on the future development of forensic science in the UK?

If the FSS is considered as one of a number of equally competent companies supplying forensic services, the closure means no more than there is less choice in the market place. If on the other hand the wider role of the FSS is considered, eg the central source of best practice, center of research and development and central source of advice on forensic science, then the closure is catastrophic. The real situation is somewhere between these two extremes. The FSS was a world leader and spearheaded the use of DNA in forensic science. Together with the Metropolitan Police Laboratory with which it merged some years ago, it provided outputs of research, training and standards in forensic science making UK a world leader as well as supporting various countries.

The introduction of the market place changed that.

I suggest that the FSS continue with some of the above roles and even if that is not accepted, there is clear evidence that a significant proportion of the roles in the broad area of forensic science across England and Wales as well as further afield are carried out by personnel trained by the FSS.

The closure of the FSS will mean "there will be no mother ship". It may be some time before the impact of this kicks in.

The emerging model at present seems to be that the police take as much as possible in house and the market operates as a commodity market. This means there is no added value gained from the scientific expertise of practicing forensic scientists who will be driven to merely operate the clinical model of providing a testing service.

2. What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

Initially the impact will be low or non-existent. In the scenario described above, the role of the forensic scientist as an independent witness will be replaced by an analytical service supporting the prosecution hypothesis and no clear mechanism to identify why particular samples were tested or the significance of the results.

It is a mistake to confine the value of forensic science as a service to the police.

*3. What is the financial position of the Forensic Science Service?**4. What is the state of, and prospects for, the forensics market in the UK? Specifically whether the private sector can carry out the work currently done by the FSS. The volume and nature of the forensic work carried out by police forces will also be examined in this light.*

Various functions previously carried out by the FSS need to be considered. These include extensive training, supporting the development of forensic science in Europe by participation in ENFSI, a more robust mechanism of establishing standards (the Regulator's system is very much built on the FSS norms), research and development and some mechanism for sharing intellectual property, providing a wide range of service not always commercially viable. The market approach is likely to eventually promote individual companies providing aspects of forensic science that are commercially attractive. The FSS appeared to be committed to provide a full service.

5. What are the alternatives to winding down the Forensic Science Service?

Recognise that forensic science, as much as policing and other parts of the Criminal Justice system are public service and build the cost into the court system. Continue the market provision as a service to the police and reorganize the FSS as a court service to arbitrate in contentious cases and provide independent gatekeeping role to the judiciary.

ASSOCIATION OF FORENSIC SCIENCE PROVIDERS**Mission Statement**

To represent the common interests of the providers of independent forensic science within the United Kingdom and the Republic of Ireland with regard to the maintenance and development of quality and best practice in forensic science and expert opinion in support of the justice system, from scene to court.

Vision Statement

To be the unified, objective, informed voice of practical forensic science provision in order to best serve the interests of the criminal justice system

Dr S M Willis, Director
Forensic Science Laboratory, Dublin

14 February 2011

Written evidence submitted by the British Medical Association (FSS 69)

EXECUTIVE SUMMARY

- The BMA believes that the closure of the government-owned Forensic Science Service will have a detrimental effect on the quality and standards of forensic evidence available to the courts.
- The BMA is concerned that the closure of the Forensic Science Service will lead to a further loss of individuals with expertise who are essential to giving integrity to court evidence.
- By increasing the outsourcing of forensic services to private companies, the BMA believes that the drive for cost-savings (through the closure of the government-owned forensic service and transfer to the private sector) will downgrade the quality of evidence available to the courts.
- The BMA has seen no evidence in the proposals to close the Forensic Science Service, that the private sector can accommodate the transfer of such a large workload. There are concerns that possible consequences will be lengthened waiting times for court hearings and fragmentation of the service.

ABOUT THE BMA

1. The British Medical Association (BMA) is an independent trade union and voluntary professional association which represents doctors and medical students from all branches of medicine all over the UK. With a membership of over 143,000 worldwide, we promote the medical and allied sciences, seek to maintain the honour and interests of the medical profession and promote the achievement of high quality healthcare.

2. The BMA's Forensic Medicine Committee represents doctors working within forensic medicine including those working in custody healthcare (Forensic Physicians) and Sexual Assault Referral Centres (Sexual Offence Examiners) and those working for the Home Office as Forensic Pathologists. All three roles include the extracting and recording of forensic medical evidence for the purpose of police investigation and potential prosecution and/or defence.

The implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system

3. The BMA is extremely concerned that the closure of the Forensic Science Service will have a detrimental effect on the quality and standards that are currently upheld in the provision of forensic evidence, specifically forensic medical evidence. With years of experience and expertise, as well as the "embedded memory" of existing teams of experts, the Forensic Science Service has become very highly regarded.

4. The proper investigation of crimes in which forensic evidence plays a part requires close collaboration and partnership between forensic practitioners such as forensic physicians (who take the material), the experts (who analyse and interpret it) and scenes of crime officers and investigators. This expertise is essential in giving integrity to court evidence. With more cases relying on forensic evidence as part of prosecution or defence cases, it is essential that the highest available standard of expertise is available to the courts. The BMA is not convinced that this will be provided under the current proposals.

The state of, and prospects for, the forensics market in the uk, specifically whether the private sector can carry out the work currently done by the forensic science service and the volume and nature of the forensic work carried out by police forces

5. The BMA believes that the entry of the private sector into custody healthcare has resulted in a fractured and variable service. The BMA notes that in some cases, the attraction to the Police of out-sourcing forensic medical services to private companies has been the offer of a fixed price contract to run the service. In introducing a fixed price to run a service, there is a risk that private companies could invariably look to make savings. Such savings may result in reductions to remuneration, which are unsustainable for many existing practitioners. Reduction in remuneration may also dissuade other practitioners with appropriate experience and expertise (who have a genuine interest in providing forensic medicine services) from working for private companies. This has the potential to lead to inconsistency in the recruitment and retention of staff and could also risk leading to a lower quality of care. A lack of retention in staff is also detrimental to establishing and maintaining links with stakeholder services such as police, probation, mental health, local health services, drug and alcohol and addiction services.

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6. The clinical and healthcare expertise available to many police forces (for example recruiting inexperienced or unsuitably qualified doctors through agencies) has consequently been lacking in some areas. In some forces, most notably the Metropolitan Police Service (MPS), the BMA believes that clinical and healthcare expertise has deteriorated sharply through the loss of experienced forensic physicians. The BMA is aware that the MPS now routinely takes no further action in prosecuting cases in which the quality of forensic evidence is poor.

7. This experience should inform the current proposals. The BMA is concerned that the drive for cost-savings, through the closure of the forensic service and transfer to the private sector, will undermine the quality of evidence available to the courts. The BMA also sees no evidence in the proposals that the private sector can accommodate such a large workload. There are concerns that possible consequences will be lengthened waiting times for court hearings and fragmentation of the service.

British Medical Association

14 February 2011

Written evidence submitted by Northumbria University Centre for Forensic Science (FSS 70)

I am Director of the Northumbria University Centre of Forensic Science, the only academic centre in the world interested in both the scientific and socio-economic dimensions of forensic science and medicine.

I have worked as an academic forensic scientist for 17 years. I began with the Sheffield University Department of Forensic Pathology—a once world renowned Department. This became part of the Forensic Science Service in 2005 and will cease to exist in a few weeks time. From 2005 to 2010 I was Director of the Forensic Science Program at the University of Toronto in Canada. I have some knowledge of the Canadian Federal and Provincial systems for forensic science service delivery, and the academic model in Ontario.

I have made expert submissions in over 30 serious criminal cases in the United Kingdom, having received instructions from both prosecution and defence. The most senior Court I have given evidence in has been the Court of Appeal.

Prior to moving into academia in 1994 I had worked for six years as a systems analyst, and I have observed the process of change in UK forensic science from the comparative perspective of other public and private sector organizations—and of other models of financial, IT and managerial good practice.

I would like to offer the following submission on the issues laid out in your announcement of 19 January.

1. What will be the impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?

1.1 The sudden and unexpected closure of a major forensic science service provider will, in the short term, lead to a reduction in the testing of evidence from scenes-of-crime, a diminution of the quality and reliability of some analyses, and the loss some testing services.

1.2 The immediate risk to the public is two-fold. The first is that physical evidence which may be critical in securing a conviction or, more importantly, the exoneration of an innocent person will not be tested properly or not tested at all. The second is that the potential growth of police involvement in forensic analyses via absorption of existing services will compromise procedural and scientific independence. All of these factors underlie a plethora of risks that have demonstrably led to miscarriages of justice and wrongful convictions in the past.

1.3 Credible alternative service providers do exist, however, and whilst restructuring may be piecemeal in part, there are prospects for reliable and affordable provision of forensic science services in the medium term.

1.4 The Forensic Science Service played an important role in the development of forensic science in the UK. It relied, however, on considerable Home Office patronage. This heavily skewed service provision, research and education in forensic science, and stifled development originating in the academic and private sectors.

1.5 These Home Office “gifted” opportunities arising not as a consequence of internal innovation, but of external change may, paradoxically, have fostered a culture of entitlement within the organisation. Both research and development, and use of information technology, were cumbersome and costly.

2. What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

2.1 While the short term lack of stability in the market cannot be good for quality, the closure of the Forensic Science Service is not ultimately a quality issue. Other providers have aimed to achieve high quality standards and the Forensic Science Service is no longer the only quality forensic science service provider. A number of problems in high profile cases have demonstrated that the Forensic Science Service’s performance was not universally superior to those of other providers.

2.2 There is no reason why individual services should not be offered out to at least the standard of the Forensic Science Service. In some areas, other organisations have been more enthusiastic to adopt formal international quality standards. The Caddy report noted¹, for example, that while both LGC Forensics and Cellmark were ISO 17025 compliant for low-template DNA analysis, the Forensic Science Service validation procedures were less than transparent. The issue of quality is an issue of regulation and accreditation—and of organisational culture, but not market structure.

2.3 The Forensic Science Service never was impartial. Its business was undertaken on behalf of the prosecution (Crown or police services). A common expectation among expert witnesses is that they undertake instructions from prosecution and defence in similar measure: the Forensic Science Service did not do this.

2.4 The Forensic Science Service was, however, more independent of the police services than the police laboratories had been. It was established to increase scientific and procedural independence.

2.5 There will be loss of scientific expertise, mitigated by the discontinuation of some entrenched practices.

2.6 The closure of the Forensic Science Service offers an opportunity for plurality within the Criminal Justice System, with different providers potentially able to undertake prosecution and defence work independently of each other in individual cases should they arise. This would offer symmetry of arms, but not symmetry of funds, as the defence is by comparison typically under-resourced financially.

3. What is the financial position of the Forensic Science Service?

3.1 My understanding is that competition and commodification of the forensic science sector has rendered the Forensic Science Service unprofitable, with no clear prospect of a return to surplus in the current market.

3.2 The publicised loss of £2 million per month is, arguably, not an enormous cost, relatively, for the provision of an important national service underpinning the Criminal Justice System. Nevertheless, it is a deficit other providers have avoided without the benefit of substantial government subsidies.

4. What is the state of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the Forensic Science Service and the volume and nature of the forensic work carried out by police forces?

4.1 My understanding is that profitability in the sector as a whole is marginal. Certain providers of small scale specialist services with limited overheads may be unaffected, but providers of comprehensive services and those working in core areas such as routine DNA analysis are struggling.

4.2 The closure of the Forensic Science Service may allow some services to be absorbed by existing providers, but it is difficult to see how this can apply to marginal or loss-making activities.

4.3. Police services will be unwilling or unable to pay rates for services that will be economically viable to providers of comprehensive and core services, while at the same time providers will be unable to raise prices to sustainable levels because of the risk of losing business to competitors.

4.4 The least competitive providers are likely to reduce their range of services, down-size or go out of business altogether. This may offer the opportunity for the remaining providers to stabilise their businesses.

4.5 Police services will seek to retrench non-complex testing “in house”, which would increase the volume of work carried out by police services. Larger services or consortia may seek to expand in-house testing to include certain activities not traditionally undertaken by police—such as routine DNA analysis.

4.6 Certain specialist services and even a comprehensive service from a single supplier may cease to be offered.

5. What are the alternatives to winding-down the Forensic Science Service?

5.1 There are none. Further subsidy to the Forensic Science Service would seem negligent.

5.2 To mitigate risk to the public and maintain confidence in the Criminal Justice System, the forensic science market must be properly regulated, quality assured and accredited. This may be achieved via licensing three or four independent providers.

5.3 A cost element must be built into regulatory and licensing policy, such that provision is economically sustainable, there is independence and pluralism in the system, and that some providers are able to offer a comprehensive service in addition to commodified testing.

5.4 Forensic analysis must be carried out with independence from the police investigation. Rather than retrenching forensic services in-house, police services should be required to utilise independent forensic testing services on the evidence they have collected—including fingerprint comparison. This would have the added benefit of helping to sustain a regulated, but competitive market.

5.5 It is important that research and development in forensic science is sustained and promoted.

5.5.1 The research funds of £6–8 million per annum from which the Forensic Science Service once

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benefited are greater than that enjoyed by many British Universities, but do not demonstrate productivity concomitant with the best University research.

- 5.5.2 The current Home Office model for forensic science research funding is opaque, uncompetitive and resistant to academic participation and peer review. At the same time, RCUK does not in reality significantly support research in forensic science.
- 5.5.3 Research funding in forensic science should be radically restructured to increase competitiveness, responsiveness, academic participation and peer review in forensic science research, and foster the development of University Departments of Forensic Science with strong links to the profession in research and education.
 - 5.5.3.1 Forensic science should have its own sub-disciplinary panel in the Research Excellence Framework exercise—ideally, in the forthcoming exercise in 2014.
 - 5.5.3.2 Research and development funds in forensic science currently controlled by the Home Office and its derivatives should be managed via a programme based on an open, competitive and pluralistic academic model. A levy should be placed on RCUK and channelled to this programme.
 - 5.5.3.3 A forensic science research funding programme should be implemented with a peer review structure having a balance from the forensic science service providers, senior scientific support managers, academic forensic scientists, senior academic pure scientists and others.
- 5.5.4 No infrastructure has been available to academic forensic science during the period Home Office resources were given to the Forensic Science Service. Many items of equipment would be invaluable to University research and education, and mechanism to transfer them should be introduced.
- 5.5.5 There are many relevant recommendations relating to research in forensic science offered in the US National Research Council report *Strengthening Forensic Science in the United States* (2009).²

6. *So far as they are known, are the arrangements for closing down the Forensic Science Service, making staff redundant and selling its assets adequate?*

6.1 My understanding is that that planning for sustaining forensic science provision in some form is ongoing. It seems, however, that many individual scientists will, with the remaining forensic science service providers, have to “sink or swim”.

6.2 There does not seem to be any kind of coherent plan for the disposal of a wealth of valuable equipment in the interests of forensic science as a whole.

7. *Declaration of interests*

7.1 As an academic forensic scientist, I have been in partly in competition with the Forensic Science Service.

- 7.1.1 My doctorate at Sheffield University was in low-template DNA analysis and as a member of the Department of Forensic Pathology I sought to develop forensic applications in this area. I applied for very modest Home Office funds, but was told “the Forensic Science Service say they are thinking about doing that”. I could not understand why, especially with the enormous DNA backlog and pressure of DNA roll-out at the time, the Forensic Science Service scientists were not more receptive. Some five or more years later LCN-PCR appeared. Forensic Science Service LCN-PCR was regarded by police as an expensive and unreliable service, and had an unfortunate history in the Rachel Nickell, Omagh bombing and other cases.
- 7.1.2 I have found the Forensic Science Service to be condescending of University forensic science degree programmes and their graduates. This may not be without reason, but my experiences in Toronto could hardly have been different. There the Ontario Centre for Forensic Sciences and the Chief Forensic Pathologist were heavily involved in the design and delivery of our forensic science degree programme, and both they and the Royal Canadian Mounted Police forensic laboratories participated in research collaboration. Many of our graduates were employed in the profession as soon as they graduated.
- 7.1.3 The Ontario model is an excellent example of professional and academic partnership in research, education and practice. The Forensic Science Service did very little to foster academic development of the discipline in the UK.
- 7.1.4 Importantly, good Forensic Science degree programmes are excellent models for the teaching of STEM subjects embedded in an important social context, and seem to be attractive to a disproportionate number of female students and students from lower income backgrounds.

The closure of the Forensic Science Service offers an exciting opportunity for the development of forensic science in the UK. Its closure offers an opportunity for a far more openness, pluralism, cooperation and innovation, and for higher standards in forensic science education and research.

Professor Martin Paul Evison BSc (hons) MSc PhD MFSSoc
Northumbria University Centre for Forensic Science

14 February 2011

REFERENCES

¹ Caddy B, Taylor GR, Linacre AMT. *A review of the science of low template DNA analysis*. Home Office, Office of the Forensic Science Regulator, 2008.

² National Research Council of the National Academies, *Strengthening Forensic Science in the United States: A Path Forward* (Washington DC: The National Academies Press, 2009).

Written evidence submitted by the Statistics and Interpretation Group, Research and Development Department, Forensic Science Service (FSS 71)

1. The comments below relate to the following questions:

- (1) *What will be the impact of the closure of the FSS on forensic science and on the future development of forensic science in the UK?*
- (2) *What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?*
- (4) *What is the state of, and prospects for, the forensics market in the UK? Specifically whether the private sector can carry out the work currently done by the FSS. The volume and nature of the forensic work carried out by police forces will also be examined in this light.*

2. The Statistics and Interpretation Group consists of three statisticians (Dr Anjali Mazumder, Dr Roberto Puch-Solis, Dr Lauren Rodgers), two engineers (Mr Ismael Mateos-Garcia, Mr James Skerrett) and a biomedical and forensic scientist (Miss Amanda Kirkham). Dr Ian Evett, of the Chief Scientist's group, acts as a consultant on several of the projects. The role of the group is to carry out research and to provide casework support on statistical methods in the evaluation and interpretation for a variety of scientific evidence types.

BRINGING ACADEMIC RESEARCH INTO PRACTICE

3. Academic research is undoubtedly a very important aspect of innovation. However, for academic research to be put into practice, it is necessary to have an insight into the intricacies of casework. As practising and research statisticians we understand casework requirements as well as the complexities of carrying out research and developing systems that are fit for casework. We constantly interact with caseworkers, biochemists, software engineers and quality-assurance managers to ensure that new methodologies fulfil all requirements for use in the criminal justice system.

4. In the past the FSS has successfully introduced new methodologies. A notable example is the introduction of DNA as forensic evidence. Dr Peter Gill and others took the method of Sir Alec Jeffreys and created a service that revolutionised forensic science. Dr Ian Evett and others have introduced a new methodology for case assessment and interpretation (CAI), which is currently under consideration for introduction across European laboratories.

5. At present the Statistics and Interpretation Group, following the FSS tradition, is providing novel methods for interpreting DNA, fingerprint and shoemark evidence using computer systems. The plan for the future is to bring novel methods for other evidence types as well as the combination of multiple evidence types.

6. In relation to question 1, if the group ceases to exist, innovation on forensic statistics in practice in the UK would be greatly impaired. In relation to question four, we believe that academia alone cannot fulfil this role, and private forensic companies would not be able to fund their own research.

THE FUTURE OF EVALUATION AND INTERPRETATION OF EVIDENCE

7. The evaluation and interpretation of evidence requires both statistical expertise and the expertise of forensic scientists. For a statistician to contribute effectively to this end requires lengthy training and casework experience. Currently Ian Evett, who has retired but continues to work for the FSS as a part-time consultant, is leading in the training of the members of the Statistics and Interpretation Group. If the group ceases to exist, this expertise will be lost.

8. In relation to question two, the lack of statistical advice to casework will have a serious impact on the quality of evaluation of scientific forensic evidence. There is a real danger that it will lead to recurrences of instances of the incorrect use of statistics and miscarriages of justice such as occurred in *R v Clark* and *R v George*.

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THE UNIQUE NATURE OF THE STATISTIC AND INTERPRETATION GROUP

9. The Statistics and Interpretation Group actively interact with the forensic science community.

- (1) We participate in the FORSTAT research group: a group consisting of practising and academic forensic statisticians across Europe.
- (2) We act as the industrial partner in EPSCRC funded studentships with Sheffield University and Queens University. The PhD students carry out research on fingerprints and shoemarks, respectively.
- (3) We have a representative in the Law and Statistics working group of the Royal Statistical Society.
- (4) We are members of a group that has applied for EU funding under the Advance Forensic Framework initiative with 15 other forensic laboratories and Universities across Europe.
- (5) We are participating in the project titled "Development and implementation of an ENFSI standard for reporting evaluative forensic evidence", sponsored by the EU.
- (6) We are active in the statistics and forensic science communities through publications, oral presentations and workshops.

10. If the proposed closure of the FSS goes ahead as planned it will not only jeopardize research and development of statistical methods for the evaluation and interpretation of forensic evidence but it will also lose the statistical expertise that supports the balanced and effective evaluation of scientific evidence in the UK criminal justice system.

DECLARATION OF INTEREST

11. This document states the personal opinion of the members of the Statistics and Interpretation Group of the FSS

Statistics and Interpretation Group of the FSS

14 February 2011

Written evidence submitted by Katy Rowe and Laura Davis (FSS 72)

1. What will be the impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?

There is a whole department dedicated full time to research and development, we are unaware of any other forensic provider has such a department. This department has produced a number of small and large developments over a number of years.

We are unaware of any other forensic provider that carries out research to the degree the FSS does into forensic techniques and improving the quality of these techniques (ie SGM developed into SGM+) enabling the discrimination factor to be increased leading to stronger and more reliable evidence in court.

Scientists at the FSS also developed the use of Taq Polymerase which enables the amplification of DNA; if these scientists are lost when the FSS closes what other developments might be lost. An example of this would be current projects to develop a process to get a profile from a sample in much shorter turn around times. Again this could be something that is crucial in apprehending a suspect such as in the Suffolk killings where time was crucial and it may have saved lives if it had been available.

Scientists at the FSS have also developed computer programmes that enable DNA interpretation to be carried out with a greater ease, these programmes are used all over the world. The FSS provide support and training for these programmes, if the FSS closes who will provide the support required?

If the FSS was to be closed there will be a loss of many specialist skills and techniques, such as Low Copy Number DNA, mitochondrial, Y-filer/identifiler and YSTR processing which has been used to solve difficult or cold cases. Would the price be higher if this was taken over by a private company or would the results be called into question due to lack of experience? The loss of specialist techniques and development of new techniques would mean less difficult or cold cases are investigated successfully.

The FSS closure would also mean that forensic innovation and research development would stop thus preventing Forensic science from moving forward as it has done over the last 10 years.

The FSS are the world leaders in forensic science and the loss of the FSS means the loss of this excellent reputation for the U.K.

The FSS closure could mean that private companies could put their prices up, raising the cost of submissions. This will have an impact upon already low police budgets, and this could cause forensic submissions to drop further due to the cost, and this in turn would have an impact on the amount/type of crime investigated which in turn could have an impact on crime rate detection.

There is also the turn around times and capacity for major cases such as the 7/7 terrorist attacks. The FSS are able to turn around large numbers of DNA samples 12–24 hours; we are unaware of any other forensic

provider that can provide this level of service at a time when it is crucial to get results as soon as possible. This work was non-profitable could other providers be able to do such a large amount of samples for a loss or no profit?

The FSS have developed technology that is the only type of its kind in the world and that has been developed by the FSS to cut turn around times and the need for as many staff. This is another example of how the FSS has moved forensic analysis forward improving efficiency and timeliness.

Loss of technology and specialist techniques, can other companies carry out this work?

With disasters such as the Air France and Tsunami it is imperative that closure was brought to these victims' families by making them aware of what had happened to their loved ones. It could be done in America however this would result in loss of revenue for the UK.

There have been a number of cases where specialist techniques and process has been used. People have been charged with a crime that seemed virtually impossible to solve at the time, a loss of this process could impact on detection rates.

What will happen to all the old samples and case files? There is evidence collected in cases that is stored by the FSS, yet with the closure what would happen to this evidence that is stored as the destruction of this evidence can cause all sorts of issues and impact on cold case files or future investigations.

Locations of laboratories, police in Greater Manchester have expressed concerns on the impact of having to take their submissions elsewhere such as time and resources (costs go up again).

There are also going to be issues regarding statements, reviews and access to files to be able to provide these statements. If the work has been processed through the FSS such as in cold case reviews and future national DNA database hits statements will be required or access to the data.

The impact of the closure can be seen in the recent stoppage of processing drink driving submissions. These samples are currently being stored by police forces until an alternative supplier can be sought. The impact could be seen by members of the public that as this service is now not clearly provided they are free to drink and drive without a worry of the consequences.

All other countries have no issues with their forensic services as they have not privatised their forensic services.

There was a petition that was started to oppose the closure and there have been many comments regarding the logistics of the closure. There are police officers that have signed as they are aware of the implications on time and money that will affect their budget. Magistrates that have signed as they are only too aware of issues that can arise from evidence in court cases, and internationally there are forensic scientists who are worried about the impact of the closure as FSS processes and research have had such an impact upon their own forensic ability to detect crime. Also people who have signed are people who have been affected by crime such as Sara Payne who knows from first hand experience the impact forensic science can have on the UK criminal justice system.

2. What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

The main point in this area is **profit vs. quality**. With private companies becoming under increasing pressure with the extra work load would they have the robotic and staff capabilities to take on this extra work and still meet turn around times?

In order to be able to meet the turn around times and avoid the financial penalties involved would the non-profitable work get left allowing perpetrators to walk free? Or would the work be rushed through just to get a result impacting on the quality of the results and the uses that those results could bring.

One private company currently operating is only part-automated for DNA processing. Being only part automated has an impact on the levels of contamination and can affect the results presented in court. If a sample has had to be reprocessed a number of times due to contamination, it will impact on the quality and the cost of obtaining a profile will then increase. Would the company be able to take on these costs or would they pass the extra costs on to their customers? This could then have an impact on what nature of samples are submitted.

Would this have an impact on the victims of crime? I.e. would certain crimes such as robbery have the same provisions for detection as they do now? Or would the victim just be given a crime reference number as it will cost too much for a) police to attend and b) to complete forensic work on a robbery when they have to retain their budget to cope with cases of a more serious nature.

To become fully automated for DNA processing and to develop the level of technology that the FSS currently has takes time, experience and money. There are many steps such as validation, internal and external accreditation, and testing. Would this be enforced on other companies, which would cost them money that they may not be willing to pay?

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One of the reasons for the FSS being set up was to maintain and ensure impartiality to be able to remove that argument from the defence in court.

Will it not cost police more to have to prove their impartiality in court? Also with issues of impartiality will it not cost more to pay people who have been wrongly convicted due to compromised evidence?

If police carry out forensic science how can they be expected to stand by their evidence when a suspect has been taken to the same building as the crime sample? How do they know for certain that there has been no contamination? Could this be used in court by the defence therefore allowing a suspect who has actually committed a crime having the case dropped against them? This would incur horrendous costs due to time, police costs, forensics provisions and court costs.

This could also make the juries biased with regards to evidence, how can a jury be certain that someone they are deliberating about whether to find guilty or not of murder actually did do it when the officer who dealt with suspect also inadvertently dealt with the crime sample?

What provisions would be put in place to avoid this? Would the jury be able to take away someone's civil liberties and put them away for many years when the evidence has been called into question? This could result in miscarriages of justice which would then result in compensation claims for the loss of freedom.

The avoidance of miscarriages of justice by the FSS is aided by all staff being required to sign the official secrets act and have high levels of security clearance. This ensures that all work undertaken by the FSS is not disclosed to anyone other than the people who actually need to know results omitting the possibility of outside influences.

As the police come under increasing pressure to solve crimes surely this could have an impact on the quality of forensic submissions. Even with correct training could a jury really convict someone based on evidence that someone has presented who has no scientific background. Who would also provide this training and at what cost to the UKCJS?

If the police are busy in the laboratories who will be keeping law and order on the streets? How can it not be considered that the closure will affect crime rates?

It could be chaos on the streets as there are no police to stop crimes in progress as they are too busy working in laboratories and with current police budget cuts cutting staffing levels further. This could have a detrimental effect on crime rates.

3. What is the financial position of the Forensic Science Service?

As members of staff of the Forensic science service we do have access to the exact financial figures. It has been made known in the media that the company was losing 2 Million pounds a month at the time of the closure announcement.

This figure does not include any savings seen from the completion of Business Transformation which was very much in progress including the closure of three sites—Chepstow, Chorley and Priory House in Birmingham.

4. What is the state of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the Forensic Science Service and the volume and nature of the forensic work carried out by police forces?

Should forensic science be a business or a service? Surely there is a moral question to be answered. Should there be money made from people's misfortune?

As the market is always changing and requirements for forensic techniques changes can the private companies keep up with these changing and challenging demands? How are they supposed to with no research and development, and with increased work loads? With no research departments they can currently afford to undercut. This will ultimately have impact on the innovation of forensic science with the market becoming stagnant and the UK falling behind instead of being the world leaders that we currently are through the FSS.

With certain companies in financial difficulties would they be able to sustain themselves when they have to do non-profitable work and/or the financial penalties for missing turn around times are implemented.

If these companies pull out of part or all of the market or go bankrupt who will take on the forensic work?

The police may not be able to as they will already be under extreme pressure and may not have the capabilities and budget especially for specialist techniques.

Internationally forensic science will suffer as the FSS trains people internationally so that they are capable of using up to date techniques in crime detection. An example of this is the Abu Dhabi contract; FSS scientists are currently training and helping this country to set up a population DNA database.

The FSS were also involved in international disasters such as helping with victim identification; no other known British company can currently help with this type of work.

The petition that was set up against the closure has the support of many international scientists and international police services as they are all only too aware of the impact of the closure will have on their own Criminal Justice System. As the FSS are world renowned for their specialist skills and scientists.

5. What are the alternatives to winding-down the Forensic Science Service?

There are three possible options that could be considered to be alternatives to the closure.

- Leave the FSS as it is, but take into consideration the two million pound losses that do not take into account the closure of Chepstow, Birmingham and Chorley laboratories. Also it needs to be considered that business transformation is only part the way through. There should be at least a chance to see transformation through to the end; otherwise the money that was provided has gone to waste.
- Take the FSS back under home office control ensuring integrity and impartiality for all crime samples and PACE samples. This option would allow the research and development department to continue their world leading work as well as maintaining the specialist techniques which are crucial to complex and old cases. If this was to happen it surely would be the best for all regarding the implications that have arisen from the proposed closure.
- Privatising the FSS. This would not be a viable alternative, with the current "forensic market" place. Forensic providers are currently struggling to sustain profitability within the market place. This alone would suggest that the provision of forensic science should be a service rather than operate within a forced market place. Privatising the FSS would raise all the issues previously discussed regarding quality, impartiality and the loss of some specialist services as seen currently in the private market.

6. So far as they are known, are the arrangements for closing down the Forensic Science Service, making staff redundant and selling its assets adequate?

As members of staff of the FSS, little has yet been confirmed regarding closure plans and exit dates. Little has also been mentioned regarding compulsory redundancy packages and the terms and conditions.

It is yet unknown where the work will be transferred/sold to or whether it will be stopped altogether. As most people work on different contracts it is also unclear how T.U.P.E will work or if it applies at all.

A concern would be that the experience, skill and knowledge of the staff of the FSS which is currently held in the forensic field would not move across to the private sector but would move abroad or be lost to other types of work. This would have a huge impact on the future of the forensic field and market. This experience would take a considerable amount of time to replace if this is at all possible.

The FSS will stop taking pathology and drink driving submissions at this present time. It is yet unclear as to where this work will go and which other supplier can cover this work. The memo relating to this was leaked to the media and contained a number of inaccuracies. This raises questions over the orderly hand over and wind down of the FSS and whether it will be easy to move/transfer or sell off the large number of areas and specialist techniques currently covered by trained, experienced and competent FSS staff.

This is the opinion of the above named people and does not reflect the view of the FSS. Our interests are as staff of the FSS with an interest and concern for the future of forensic science and UKCJS.

Katy Rowe and Laura Davis

14 February 2011

Written evidence submitted by Terry Kent (FSS 74)

COSTS OF CRIME

Crime in the UK costs the taxpayer billions of pounds each year. The police service costs a reported £2.9 billion to maintain. The "savings" to the Exchequer of closure of the FSS is a reported £24 million!

I have 40 years experience in providing technical and scientific support to the police in the UK and have considerable experience of working with many police forces worldwide including the FBI, BKA, AFP, Gendarmerie National and others. I was never employed by the FSS but worked closely with them.

I was a strong critic of many of their procedures and organization and even of some of their science. However the last thing I would recommend is for the Home Office pull out of managing forensic science and the associated research.

Over the last 25 years we have become increasingly reliant on forensic evidence to secure convictions. The UK has led the world in virtually every area of fingerprint detection (largely carried out by police forces) and DNA and other "forensic" evidence analysis by FSS laboratories.

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Although there are a number of very effective well run private suppliers of most of these services they are all essentially in it to make money.

There is no evidence that any of the private companies will be investing in the next generation of forensic techniques unless they can clearly see that is going to make more money.

There are also companies wanting to cash in on this opportunity that have questionable experience, science and motives.

There are serious issues which have no clear current solution with regard to:

- (i) Maintaining scientific standards and impartiality?
- (ii) Ownership and management of forensic databases (DNA, Shoemarks, Ballistics data etc)?
- (iii) How will security of data and evidence be maintained and access controlled?
- (iv) Who will be responsible for storing all the casework evidence from the FSS; in the UK evidence from a murder or other serious crime must be kept for 30 years?
- (v) Who will be in a position to carry out cold case reviews of evidence?
- (vi) How will cases be managed if several different laboratories are involved for example perhaps ballistics, DNA, handwriting etc as provided for under the NPIA Forensics²¹ Forensic Framework for contracting out of services? This could result in absolute chaos and serious loss of evidence and evidential continuity.
- (vii) What research in forensic science will be done? How will it be funded and who will co-ordinate it?

NATIONAL POLICE IMPROVEMENT AGENCY (NPIA)

This new unit has been given the task of solving some of these problems. A “Forensic Regulator” has been appointed who I understand has overall responsibility for standards of Forensic Providers and Police Fingerprint Bureau amongst other things. This is a major responsibility.

They have established a Forensic Framework Agreement where there are certain approved private laboratories for each type of evidence and they can bid for contracts in that specialism.

| <i>Work Package</i> | <i>Forensic Service Provider</i> |
|---------------------------|---|
| 1. DNA PACE | Eurofins Genetic Services Ltd Forensic Science Service Ltd LGC Forensics Ltd Orchid Cellmark Ltd |
| 2. DNA Crime Scene Stains | Eurofins Forensic Services Forensic Science Service Ltd Key Forensic Services Ltd LGC Forensics Ltd Orchid Cellmark Ltd |
| 3. Drugs | Forensic Science Service Ltd Key Forensic Services Ltd LGC Forensics Ltd Mass Spec Analytical Ltd Scientifics Ltd |
| 4. Fire Investigation | First Forensic Ltd Forensic Science Service Ltd Key Forensic Services Ltd LGC Forensics Ltd Orchid Cellmark Ltd |
| 5. Footwear Marks | First Forensic Ltd Forensic Science Service Ltd Key Forensic Services Ltd LGC Forensics Ltd Napier Associates Orchid Cellmark Ltd Manlove Forensics Ltd |

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| <i>Work Package</i> | <i>Forensic Service Provider</i> |
|---|--|
| 6. Casework—Gun Crime A | Forensic Science Service Ltd Key Forensic Services Ltd LGC Forensics Ltd Orchid Cellmark Ltd Manlove Forensics Ltd |
| 7. Casework—Homicide & Violent Crime A | Forensic Science Service Ltd Key Forensic Services Ltd LGC Forensics Ltd Orchid Cellmark Ltd Manlove Forensics Ltd Forensic Access Ltd |
| 8. Casework—Sexual Offences | Forensic Science Service Ltd Key Forensic Services Ltd LGC Forensics Ltd Orchid Cellmark Ltd Forensic Access Ltd |
| 9. Casework—Volume Crime | Forensic Science Service Ltd Key Forensic Services Ltd LGC Forensics Ltd Orchid Cellmark Ltd Forensic Access Ltd |
| 10. Questioned Documents | Forensic Science Service Ltd Key Forensic Services Ltd LGC Forensics Ltd |
| 11. Road Traffic Incident/Collision Investigation | Forensic Science Service Ltd LGC Forensics Ltd |
| 12. Toxicology | Eurofins Genetic Services Ltd Forensic Science Service Ltd Key Forensic Services Ltd LGC Forensics Ltd Mass Spec Analytical Ltd Randox Laboratories Ltd (ROAR) Forensics Ltd |
| 13. Casework—Gun Crime B | Forensic Science Service Ltd Key Forensic Services Ltd LGC Forensics Ltd Orchid Cellmark Ltd |
| 14. Casework—Homicide & Violent Crime B | Forensic Science Service Ltd Key Forensic Services Ltd LGC Forensics Ltd Orchid Cellmark Ltd Forensic Access Ltd |

As indicated above this could result in the same evidence having to go to several providers for different types of analysis.

The NPIA do not have the resources to adequately regulate the providers. UKAS accreditation may assist in the initial setting up and validating of providers but is no insurance of long term performance or integrity.

What was needed in the FSS was a root and branch review and reorganization by genuine business managers whereas most of the last 18 years of progressive status changing in the FSS has been led by forensic scientists who did not have the necessary skill set to achieve the necessary changes in performance.

I still travel widely and police and forensic scientists in many countries who have been envious of the UK's history and reputation in this area cannot understand the recent decision. I am in regular email contact with people around the world who are totally perplexed by the UK government's position.

Terry Kent

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14 February 2011

Written evidence submitted by The Biochemical Society (FSS 75)

1. The Biochemical Society is a Learned Society with over 5,000 members worldwide. Our membership encompasses those working in academia and industry with a wide range of perspectives and views on policy-relevant science. Our science policy work supports and promotes the molecular biosciences by identifying and acting on the issues in science and education policy which most affect the molecular bioscience community.

2. We are grateful for the opportunity to submit evidence to this inquiry. The Biochemical Society's response has been prepared on the basis of contributions from both its members and the wider molecular bioscience community. In this instance, it is important to highlight the important contribution to this response made by the staff running the Forensic Science programme at University of the West of England (two of whom are ex-employees of the Forensic Science Service).

What will be the impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?

3. The Forensic Science Service (FSS) is a world-leading forensic science provider, with a track record of leading development and innovation in this area. This record includes the development of DNA testing, the world's first National DNA Database (NDNAD) which was established in April 1995 and the automation of DNA testing.

4. Further UK-based developments and innovation in this area will require continued investment in research and development for forensic scientific examinations. Collaborative work between forensic science providers and universities would seem to be the best approach, but funding for this is extraordinarily difficult to obtain and in a purely privatised sector, it is hard to see the potential sources of such funding. The UK could thus fall from being a world-leader to a user of technology developed elsewhere, perhaps not to the rigorous standards which are currently embedded in forensic science culture in the UK.

5. FSS staff are actively involved internationally in setting up and supporting forensic science provision in other countries. There is a risk that the international reputation of the UK in this area will be lost in addition to difficulties due to withdrawing from long term contacts with other countries.

6. A large number of senior forensic scientists in the country have been trained within the FSS. In transferring the FSS to the private sector where there may not be such a strong emphasis on training the UK risks retaining and generating further skills in this area. In addition, a loss of "corporate memory" and training resources eg senior staff who would be likely to take early retirement rather than be employed by another company is being risked. This concern of loss of "corporate memory" in this area expands to the related abolition of the National Policing Improvement Agency.

7. The winding down of the FSS severs a link to Government through which policy initiatives could be quickly and robustly implemented eg DNA database expansion projects. Centralised and key associations with other government agencies such as the Ministry of Defence, Forensics Explosives Laboratory and MI5 will also be lost.

What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

8. The national and historic coverage of the FSS (in England and Wales) means that there is a breadth and depth of experience and expertise which is particularly important in serious and complex cases. Specialist scientific advisers need to be aware of huge range of specialisms and be able to identify and call on this expertise as required in individual cases. The proposed winding down of the FSS could lead to this expertise becoming harder to identify and utilise. This would be to the detriment of the judicial system.

9. A loss of expertise and capacity to develop and implement new and improved processes, especially with new technology as it becomes available, could limit access to justice. It is our view that government should underpin forensic scientific work in the UK by continuing to support the FSS in order to have an experienced workforce able to spend time if necessary on projects that are not immediately profitable but which serve the purposes of justice.

10. The FSS has archived data relating to the prevalence of evidence that aids the valid interpretation of results. How this data will be used in future, in the event of the FSS being wound down, is an important issue which must be dealt with in a way which is in the public interest.

11. The temptation with any private company focussed on making a profit is to undertake the cost-effective processes and not invest in more speculative or expensive procedures. This may have a negative effect on the administration of justice due to some testing not being undertaken, which could provide evidence of innocence or evidence that assists a prosecution.

12. The ease or likelihood of sharing developments for the benefit of justice rather than the profit of private companies is being diminished. The DNA technologies developed by the FSS were able to be adopted by other companies who could become accredited and able to link to the NDNAD.

13. High quality relevant scientific results can greatly assist the investigation of crime and administration of justice. Investment in development work is likely to be well repaid in the long term in terms of the efficiency and effectiveness of forensic examinations. The decision to wind down to FSS should not be solely financial.

CONCLUDING REMARKS

14. It is of concern that the Home Office only announced a review of research and development (on the 27 January) over a month after the announced closure of the FSS. James Brokenshire, Parliamentary Under-Secretary of State for the Home Department, announced the aim of this review would be “to consider the current and likely future status of research and development relevant to forensic services for the criminal justice system within England and Wales”. It is hoped that no irreversible decisions will be made regarding the closure of the FSS would be until this review has concluded, and both Parliament and the science community have been given the opportunity time to respond.

15. The Biochemical Society is delighted that the committee has chosen the proposed winding down of the Forensic Science Service as the subject of an inquiry. We hope that the Government will also recognise the need for further discussion on this issue. We would be pleased to discuss further any of the general points raised in this submission, to provide more detailed information, or to suggest oral witnesses and other specialist contacts, should this be of interest.

The Biochemical Society

14 February 2011

Written evidence submitted by Mike Silverman (FSS 77)

1.0 The primary impact of the closure of the FSS, in itself, ought not to be catastrophic as other commercial providers are in the UK market and could potentially increase production to cover the shortfall left by the FSS. However, coming at a time of Police Authority financial restraints and Police Service budget cuts, the market for forensic science appears to be rapidly shrinking and the Police themselves are considering insourcing much of the traditional forensic science provision.

1.1 This will lead to a far more fragile UK forensic science market than was originally hoped for by the Home Office. The incentives for new entrants into the forensic science provision market are small and the barriers to entry high. Recent attempts to enter the market by new suppliers (rather than ex-FSS staff reforming companies) have largely been unsuccessful. The fate of *Eurofins* is one such example.

1.2 Current suppliers could, rightly, consider the market unfairly biased if the sole customer (the Police Service) is also a competitor for forensic service provision.

2.0 Once again the closure of the FSS ought not, in itself, adversely affect impartiality and quality of forensic service provision as other commercial providers are available in the UK market and are subject to the same quality standards and codes of ethics as the FSS.

2.1 The move to insourcing by the Police Services for financial reasons can only adversely affect the impartiality of provision in comparison with an outsourced forensic provider. This impartiality of outsourced provision was the primary reason given for the merger of the Metropolitan Police owned and funded Metropolitan Police Forensic Science Laboratory (MPFSL) and the FSS in 1995. It is likely to be the Courts that end up with a lesser service.

3.0 The financial position of the FSS was publicly stated as losing £2 million each month. This figure does not surprise me for, when I had a seat on the Executive Committee of the FSS it was abundantly clear that the organization had no grasp whatsoever of its operational costs. Indeed, the FSS was the architect of the national pricing structure for forensic science provision for many years. This pricing was, to my knowledge, not based on any realistic cost of delivering the service to the Police.

3.1 The FSS has always been top-heavy in marketing, management, research and other corporate overheads. Much of the cause of the current financial predicament for the FSS has been its inability, as an organization, to embrace transformation into a leaner, more cost efficient and effective agency.

4.0 As already stated in earlier paragraphs, the prospects for the forensic science market in the UK are poor and the market itself fragile. This is only partly as a result of the FSS wind-down. Of more impact are the shrinking market, financial constraints on the only realistic customer for forensic science (the Police services)

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and the pressures to find cuts in forensic science police budgets (perhaps through insourcing or unwarranted reduction in submissions to the laboratory). Once again, it will be the quality of the case presentation to Court that will suffer—and through that, public confidence in the CJS.

4.1 Although I am sure that any competent forensic service provider would be able to complete process upscaling in time to manage the volume of work currently being carried out by the FSS, I am at a loss as to why they would want to take such a risk. What is the commercial sense in the risk of an investment in additional staff and equipment and accommodation without any assurances from the Police customer that there will be a continued demand for the service?

5.0 The FSS could be 'redistributed' by site or by service. Since almost none of the FSS sites are able to offer a comprehensive service on its own, it would seem more logical to offer the FSS packaged as 'service lots'. These might be of interest to existing suppliers or new investors.

5.1 However, as before, none of this is likely to be of any commercial interest unless some assurances of a continued outsourced market is obtained.

6.0 I have no knowledge or comment to make on the closing down arrangements for the FSS.

7.0 I have been an operational, court-going forensic scientist and Reporting Officer, working for the Metropolitan Police Forensic Science Laboratory for over 12 years.

I have been employed as Scientific Support Manager—managing Crime Scene Investigation, Fingerprint Bureau and the forensic science budget as a forensic science customer and consumer—for Kent Constabulary for 6 years.

I have been a senior manager with a seat on the Executive Board of the Forensic Science Service, having roles as Head of UK Markets (Police) and Head of International and Corporate Markets between 1995 and 2002.

I have worked in the Science Policy Unit of the Home Office between 2002 and 2009 where I led for the Home Office on the development of the National Forensic Pathology Service and creation of the forensic science market.

I was the architect of and first incumbent Forensic Science Quality Regulator, and was Chair of the European Network of Forensic Science Institutes (ENFSI) working group on Scenes of Crime for 3 years during which time we pioneered the introduction of ISO 17020 as a European Standard for crime scene investigation.

Since 2009 I have been an independent forensic science strategy consultant.

I have unique, in-depth knowledge and background in the development and delivery of the current forensic science market both in the UK and Europe.

I have no affiliations, bias or vested interests in any sector of the forensic science arena.

Mike Silverman

Independent Forensic Science Strategist

13 February 2011

Written evidence submitted by Shailes Jagatiya (FSS 78)

1. What will be the impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?

Certain forensic disciplines are essential for the investigation of a few but specific types of crimes. There is a requirement to use these expensive techniques which significantly contribute to the investigation but do not generate a financial return. Over the years there has been a decline in the number of experts in these key areas eg/specialist location and recovery techniques, knot analysis and unique marks in blood analysis. Much of the investment has simply focused on the forensic use of DNA profiling.

The other Forensic Suppliers may advertise a full range of forensics services but are unlikely to have the desire to offer, or indeed have the knowledge to, carry out some of the most specialised techniques. It is therefore my expectation that both capability and expertise will be lost to the UK CJS. One potential option could be some reliance on international expertise but as the FSS are at the forefront of Forensic developments it is likely that specific requirements will not be met.

The Forensic Science Service has enjoyed the reputation of being the world leader in Forensics, an accolade that has been endorsed over the years universally by other forensic organisations. The commitment to research and development has not only contributed to this reputation, but developments originating from the FSS have shaped process and established standards internationally. The outputs from the pioneering research and development have benefited the entire forensic industry. This has only been possible by the scale of R&D carried by the FSS. Although in recent years the resources available to R&D within the FSS has reduced the rate of progression and development has remained constant. It is evident that the level of commitment to the

future development of forensic science is not match by any other institute, with the industry reliant on the contribution of the FSS.

2. What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

Having personally managed the transition of new techniques from research to operational use. I am aware of the stringent procedures and process in place which provide the quality assurance to the CJS. Before a new DNA technique can be considered for implementation, it follows a series of reviews. The initial internal review is a detailed study of the holistic process, followed by external accreditation by NPIA and UKAS. Experience has shown these reviews are essential as they identify potential issues which could impact on the outcome. In addition these reviews identify improvements facilitating a continual improvement approach.

Although it is true that the same requirement for validation and accreditation applies to all Forensic Service Providers, it's certainly not the case that all forces that are currently in-sourcing are subject to the same rigours. The Forensic Regulator has established the quality standards for the industry however these have not been universally adopted by all conducting forensic analysis. There maybe the expectation that organisations are working towards these standards, however in the meantime, forensic analysis is conducted without the benefit of the established quality standards with obvious significant risk to the CJS.

There is the established view that independence is closely associated with impartiality. This philosophy is almost certainly the core reason for the transition in status of the FSS. Initially the FSS was closely associated with police forces, then moved to an executive agency in 1991 followed by the Gov Co status in 2005. This transition has helped to establish an independent body, the aim of which is to ensure the possibility of influencing a certain outcome can not be achieved.

Impartiality is not an exact science more a perception, and it is not easy to see how the forces conducting in house forensic analysis foster this impression. A recent article published in The DC examiner titled "D.C Considering taking crime lab away from police control" there are two notable quotations <http://washingtonexaminer.com/local/crime-punishment/2011/01/dc-considering-taking-crime-lab-away-police-control#ixzz1DvfMsRZX>

- "[The Metropolitan Police Department] should not run the forensic lab," Mendelson said. "Police are collecting evidence, then analyze it and then testify. It's more credible if police collect the evidence, give it to scientist and then have the scientist testify."
- "A recent two-year study by the National Academy of Sciences found that the forensic evidence presented by prosecutors in courtrooms around the country was often scientifically faulty. Forensic analysts sometimes face pressure or incentive to alter evidence to help the prosecution."

It is unlikely that this situation is Washington is unique, indeed, in a TV appearance on BBC breakfast the former Deputy Prime Minister Lord Prescott stated that he did not trust the Met Police to carry out an objective investigation in the "phone tapping" incident. This is the view expressed by certain pathologist about the pressure placed on them by specific forces, all contributing in undermining the public's confidence in the entire criminal justice system.

3. What is the financial position of the FSS?

Although there has been some recent press about the FSS making a loss of approx £2 million/month, this does not reflect the whole reality of the situation. With the deregulation of the market it was vital for the footprint of the organisation to reduce significantly to remain viable, the core reason for embarking on the organisational transformation project. I am sure that the committee are fully aware that this project aimed at a significant reduction approx 750 of core staff and the complete closure of three operational sites. It was, therefore inevitable that for a finite time frame for this scale of loss. My understanding is that the FSS business plan accounted for such a loss. The plan was developed with respect to the projected scale of the market, as viewed at the time by the respective ministers. The common vision held, was that the business would make a modest return based on a redefined organisation post the transformation.

More recently the FSS as secured a lucrative contract with a forensic provider in the Middle East, it is also in the process for competing with a substantial service contract with DSTL.

My understanding is that a recent HMIC report predicts a reduction in forensic submission and hence the reduction of the market, has precipitated the "winding down of the FSS". However the net impact of this to the FSS is significantly mitigated with the already reduced footprint, the UAE contract the and the potential award of the DSTL tender (however my personal feeling is that the announcement to wind down the FSS may have jeopardised this)

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4. What is the state of and the prospects for, the forensic market in the UK specifically whether the private sector can carry out the work currently done by the FSS and the volume and nature of the forensic work carried out by police forces?

Despite the current climate the ethos of the FSS has remained unchanged, whereby the focus has been on the obtaining the correct and the best outcome using the most appropriate (some times costly) techniques. Although there has been the constant drive for efficiency and improvements this has been successfully achieved without compromising quality which has remained sacrosanct.

My understanding is that the FSS currently accounts for between 55–60% of the contestable market representing approximately 120,000 cases annually. Over the years the FSS has invested considerably in training, development, and equipment to deliver both forensic capacity and capability. With the aggressive time scale set, it is difficult to see how this volume can be transferred to another provider without impacting on the CJS.

In-order to undertake this volume of work, some of which is not financially lucrative, it will almost certainly require some level of investment on the part of another FSP. It is likely that a business case which delivers a promise of a financial return would be readily approved, however for other services where profits can not be guaranteed it is unlikely that the board of any commercial organisation would be committed to investing. The commercial providers are not obliged to undertake out all types of forensic analysis and many prefer to focus on the high value services. The option to combine both low and high value services in any future procurement process could potentially lead to another provider exiting the market, so stifling the government's plans to cultivate a marketplace.

The state of the forensic market in the UK can only be best described as being unstable specifically with the FSS exiting the market. As the financial pressure grows and police in-sourcing becomes more prevalent it is difficult to see how the private sector can offer the range and depth of service currently offered by the FSS.

The FSS has succumbed to the challenge of police in-sourcing. This is a very unique situation whereby in an apparent marketplace the customer is a significant threat on all forensic providers. It is unlikely that this situation is sustainable and if the trend continues a significant proportion of the work will be carried out by police forces, adding to the already considerable pressure on commercial providers. As mentioned, a number of scientific techniques have been developed and implemented for the benefit of the UKCJS by the FSS. Many of these have been subsequently adopted by both domestic and international forensic providers. The expertise to carry out the scientific analysis resides with the forensic providers and not the police, as is the case regarding crime investigation where the expertise resides with the police officer and not the forensic practitioner.

Police in sourcing may be viewed as a cheaper option for the individual force concerned, however without the benefit of a full cost analysis it is not possible to confirm this. It is my firm view that the fullness of time may reveal that at the force level there maybe a cost reduction but the tangible overall cost to the tax payer will increase.

5. What are the alternatives to winding-down the Forensic Science Service?

The alternatives to winding down of the FSS are difficult to contemplate; but one option could be to consider a temporary reprieve. This will allow a real opportunity to evaluate the possibility for the FSS to develop into a financially viable company. This would seem like a sensible option following the re-organisation project focused on the implementation of new business efficient process and scientific techniques.

It is evident that the timing of the announcement, meant the outcome of the extensive investment as a part of the transformation project were wholly irrelevant,

I do believe the UK is in unique position where the state retains no interest in the forensic market. This decision leaves the UK CJS vulnerable to the dynamics of an immature market. I think another option could be to consider a significantly reduced organisation that has some state interest. This organisation could focus on the bespoke services, and could provide a contingency in the event of the increased submissions or the potential of a provider exiting.

6. So far as they are known, are the arrangements for closing down the Forensic Science Service, making staff redundant and selling its assets adequate?

My understanding is that a committee has been set-up with the intension to wind up the FSS, with the focus on an "orderly" transition and the break up of the organisation. It seems that this process has been initiated and the out comes of varies reviews will have inconsequential impact on the outcome. It is somewhat difficult to understand why a review is commission once a decision has been taken.

PERSONAL DECLARATION

I am currently employed by the FSS and work as scientific area manager within research and development. I would like to confirm that the views expressed here are my own personal views and do not represent the views of the Forensic Science Service.

I would like the committee to acknowledge my personal gratitude having had opportunity to work within this world leading institution. It goes without saying that I think that the decision to close is the FSS is very short sighted and one that the country will certainly regret with the fullness of time.

Shailes Jagatiya

14 February 2011

Written evidence submitted by the Centre for Forensic Investigation, Teesside University (FSS 79)

Teesside University has been involved in forensic and crime scene science education for many years. It has specialist staff including academic and practitioner, suburb facilities and a number of successful partnerships. Two partners are the Metropolitan Police Service and the National Policing Improvement Agency. Teesside University has developed various foundation degrees with these organisations as part of their overall professionalization of their workforces within the forensic industry.

The Centre for Forensic Investigation at Teesside University works with the forensic science and public protection subject groups to deliver various awards, coordinate research and maintain links with the industry.

1. What will be the impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?

1.1. The announcement was by enlarge a major shock and triggered much discussion in the forensic community on the resulting impact. The FSS had an international reputation of respect built up over many years. Unfortunately the move into the commercial market in the early 90's found the FSS lacking and it never really adapted or was allowed to adapt its business adequately to survive. As a consequence, the UK is no longer openly acknowledged as the world leader in forensic science. In fact it lives on its historical reputation. If the FSS is to close or partially shrink, this event needs to acknowledge the contribution the FSS made to the early development of forensic science, in terms of research, but also looking to the future to rebuild a world class reputation.

1.2. The key impacts include the comprehensive provision of forensic evidence and expert opinion to the criminal justice system by the remaining market and, to a certain extent, research.

1.3. Research—in terms of future development of forensic science, research is vital for the future success and impact of forensic science. A particular need is to identify and take advantage of new technology and concepts from medicine, science and engineering with potential forensic applications. With a shrinking market it is not conceivable that the commercial market of forensic providers will fund 100% of the research. A certain amount can be contributed in collaboration with universities and links to funding bodies. Police forces need to appreciate that innovation and research is essential for progress providing the best technology and information to an investigation and best evidence to the courts.

1.4. Development of forensic science is a very complex area but the current proposal for a QAA bench mark for forensic science education links Universities to support innovation and research.

1.4.1 The whole research arena is currently very uncoordinated and not sufficiently integrated. Universities can support forensic science development but coordination is essential to minimise duplication and ensure the appropriate areas are explored. There are relatively easy steps to address this in the early stages.

1.4.2 The area of research funding has always been an issue hence the link to the QAA bench mark will help with the creation of a research funding stream.

1.5. The government may wish to consider if there are alternative innovative solutions to take forward forensic science research. There is an overseas model in which the government own a state of the art research facility which is made available to those wishing to carry out research.

2. What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

2.1 In terms of quality and impartiality it is vital that those providing professional and expert evidence to the courts accept that they need to provide reliable, robust evidence. The court needs to be assured of the quality standards behind all the professional and expert witnesses and further that the public have confidence in the provision of the evidence.

2.2 Quality—This is probably the most serious of all the fallout from the FSS closure. All of the leading providers have accredited quality management systems incorporating competency testing, training, peer review etc. Such systems take time to implement and should be 'built-in' to the staff with the overall thinking and working procedures. Anyone who contributes to forensic investigations must comply with these stringent quality standards. The court requires these standards and the public expect them. This means that any new providers into the industry must comply with the high standards. Reaching such standards takes time to get in

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place. If these new providers include police forces they will need many months if not years to reach the standard to gain and maintain accreditation.

- 2.2.1 The future will require that the burden on the Forensic Science Regulator, who holds responsibilities for setting, maintaining and monitoring quality standards, will increase many times due to a greater number of smaller providers. ACPO and NPIA both need to fully support the FS Regulator.

2.3 Impartiality—In theory there should be minimal impact on the overall impartiality of forensic evidence because anyone who provides forensic evidence must appreciate and understand that they are responsible to the court irrespective of commissions or who pays for the work. However with the closure there may be more work carried out within the various police forces and small companies new to forensic science and the employers will need to accept and make staff aware that although they are helping police investigations the ultimate customer is the court.

2.4 Interpretation of evidence—Latterly forensic science has been evaluated and interpreted using the Bayes theorem involving the likelihood ratio; this was fully implemented in the FSS, however, less so with other forensic science providers. There will need to be a significant debate and resolution on how best to evaluate forensic evidence for a consistent approach.

3. What is the financial position of the Forensic Science Service?

- 3.1 I have insufficient knowledge of this area.

4. What is the state of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the Forensic Science Service and the volume and nature of the forensic work carried out by police forces?

4.1 In the short term it would seem unlikely that the commercial companies could completely mop up the FSS work and the police are certainly not in a position to take up the work. The police forces don't have the necessary facilities, resources or accreditation to deal with the work—in the short term. There may therefore be a case for partial or staged shrinkage.

4.2 There will need to be a review of the tendering process—a very elaborate process to provide work for the commercial providers. Again with a shrinking market the process will need to ensure that the standards to deliver work to the investigation and the justice system are the same for in-house and commercial providers. There are a number of key questions such as—do the commercial providers have sufficient resources to deliver the work they win in a timely manner and do the police forces have the appropriate accreditation and competency to deliver forensic services?

5. What are the alternatives to winding-down the Forensic Science Service?

5.1 If the government has undertaken a thorough due diligence to the closure of the FSS then the decision may be correct. However there continues to be a commercial market, albeit reduced. The government may wish to consider if there are viable examples of commercial markets such as within Northern Ireland or New Zealand. In both these countries there is essentially one police force to one provider. Within the UK it may not be appropriate to have one police force to one lab but it may be worth considering one lab and several like minded forces such as the ACPO 2 region in the North East of England with the one laboratory being Wetherby. Further, the London laboratory and the Metropolitan Police may be a viable proposition⁴⁹. The government may wish to consider these options.

6. So far as they are known, are the arrangements for closing down the Forensic Science Service, making staff redundant and selling its assets adequate?

6.1 I am not sufficiently knowledgeable on the overall arrangements but this is a major piece of work with many facets from personnel issues, scene and court samples, case files, ongoing cases and databases to consider.

6.2 The recent news item relating to the provision of analysis of blood and urine samples for the purposes of the Road Traffic Act (1988) suggests that insufficient planning and understanding of the extent of work carried out by the FSS has not yet been fully understood.

Brian W J Rankin
Head of Centre for Forensic Investigation (CFI)
Teesside University

14 February 2011

⁴⁹ Prior to the 1996 the Metropolitan Police Forensic Science Laboratory was the laboratory for the Metropolitan police. Internationally respected and well known for their science, forensic science, quality standards and research.

Supplementary written evidence submitted by the Centre for Forensic Investigation, Teesside University (FSS 79a)

I listened with interest to parts of the select committee oral sessions on the closure of the FSS. I noted that entry to the profession was also mentioned. (I did make a submission but did not appreciate that this topic would be discussed). I am concerned about the comments re “worthless” forensic science courses. I speak from my role as co-chair of the standards committee of the Forensic Science Society Professional body and as Head of Centre for Forensic Investigation at Teesside University.

The Society has worked very hard at improving and maintaining educational standards.

My specific role in the professional body is to oversee the accreditation of Universities who deliver degrees in Forensic Science and Crime Scene Science. As way of context of the 150 or so Universities in the UK about 50 involve “forensic” courses. Of these 17 universities are now accredited by the professional body. (and not all who apply are successful). This was an area picked up by the last select committee on “Forensic science on trial” (2004–05) in which (para 92) the select committee endorsed what employers were saying and that it would continue with its scheme.

The Society has worked incredibly hard to raise standards and work with Universities and employers to achieve this. In addition, I am also part of a small working party which has recently received confirmation for a QAA benchmark in Forensic Science. The progression of this will involve academics and employers.

Brian W J Rankin

Head of Centre for Forensic Investigation Teesside University and

Immediate past President / Co-Chair of standards for the Professional body (The Forensic Science Society)

18 April 2011

Written evidence submitted by the FSS Gunshot Residue Staff (FSS 80)**A PERSONAL SUBMISSION BY FSS GUNSHOT RESIDUE STAFF****1. INTRODUCTION**

The GSR unit is a Centre of Excellence providing a national service to most of the 43 police forces in England and Wales and other organisations seeking GSR work. The FSS deals with 150–200 firearms incidents requiring GSR each year. The service provided includes the recovery, analysis and detection and interpretation of GSR evidence in firearms crime and attendance as an expert witness at Court. GSR evidence is contested more often than many other evidence types and on average the GSR staff receive a higher proportion of defence examinations and requests to give expert testimony. The cases are invariably serious crime relating to murders, attempted murders, shootings involving police officers, armed robberies and terrorist cases. The unit also offers a GSR service for International police forces, Northern Ireland, SOCA, Criminal Case Review Commission (CCRC), the Independent Police Complaints Commission (IPCC) and assists with cold case reviews in some of the most high profile shootings. GSR is a niche specialised discipline. There are currently only eleven practicing Gunshot Residue (GSR) experts in the UK (not including Ireland and Scotland) capable of carrying out primary examinations. They are employed by three organisations: the FSS (7), LGC Forensics (2) and Key Forensics (2). There is currently no indication that gun crime is declining and it is crucial that adequate provision is made for the forensic investigation of these serious and sometimes high profile cases going forward. There is a serious risk that there will be insufficient capacity or expertise to carry out the 80% market share which the FSS currently provides if the unit is broken down.

2. BACKGROUND TO THE FSS GSR CAPABILITY

The research leading to the discovery of GSR and its use as an evidence type in its own right began with the Metropolitan Police Forensic Science Laboratory and the Northern Ireland Forensic Science laboratory in the late 1970's. The Home Office Forensic Science Laboratories set up a dedicated unit based in Birmingham in 1988 to cover the rest of England outside the London Metropolitan area. When the HOFSL and the MPFSL merged in 1996 these two units covered the GSR work for the whole of England and Wales. In 2007 the two units were merged in to one based in London. The purpose was to create a Centre of Excellence where the full range of casework could be dealt with, to maintain competence and a need to cut costs and offer better value for money. The unit receives over 60% of its work from the Metropolitan Police. Nationally it undertakes around 80% of all the GSR work in England and Wales.

3. TRAINING AND DEVELOPMENT

GSR is one of the most complex and important evidence types which is relied upon by police forces investigating suspects involved in serious gun crime. On average it takes approximately two years to train someone in GSR and a further four years of reporting experience before they are able to undertake the full range of gunshot residue casework. The interpretation of GSR is still evolving, but we are not aware of any research or development being carried out by the other providers in the UK since they entered the market. The FSS is responsible for writing the first Guidelines for Interpreting and Reporting GSR. In the main these

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principles have been accepted and adopted by the other providers. The FSS also developed the first National Police Ammunition Database and holds over 30 years worth of data relating to GSR from different types of ammunition from all over the world. The unit undertakes projects and carries out surveys to improve the interpretation of GSR. The experts have given papers at many scientific meetings and authored on the subject of GSR. We were also the first laboratory in the UK to receive UKAS accreditation for GSR as an evidence type. The act of splitting the unit and dividing the work between a number of providers would not allow the discipline to develop or even maintain its current level of expertise in the future.

4. INSTRUMENTATION

Microscopic particles of gunshot residue are detected using powerful scanning electron microscopes (SEM) and identified by x-ray analysis (EDX). The FSS's GSR unit is unique in that it has five SEM/EDX systems dedicated to GSR work and hence more capacity than any other lab in the world and the experts are specialists in the use and maintenance of this highly sensitive specialised equipment. This represents a capital investment of nearly £1m. None of the other providers in the UK have this level of capacity. Currently the other UK providers only have one SEM/EDX system each and as such are more vulnerable to fluctuations in workload, their ability to respond and capacity for research. LGC Forensics is the only other provider carrying out a significant amount of primary work. Much of the work undertaken by Key Forensic Services is done as defence work. There are no university departments with automated GSR systems that are capable of carrying out casework, or research and development. Duncan Pirrie at the University of Exeter has a sophisticated particle analysis system and is interested in forensic applications but currently works alone in the field. If the current plan to close the FSS goes ahead there will be a need to make adequate contingency plans for GSR while the section is either moved or another provider can take up the work. Moving the equipment is a major task which will be costly and time consuming. Procurement times for new equipment usually run at 10–12 weeks. Time is also required to validate or verify the equipment necessary for accreditation.

5. EXPERTISE

The FSS's GSR experts are recognised as leading authorities in their field and are active participants within ENFSI and the American Scientific Working Group for GSR (SWGGSR) and sit on a number of committees in an advisory capacity. This enables them to keep up with the latest developments and to share their experience with other organisations around the world. Many of the current practitioners around the world have spent some time with or received training and advice from the FSS. All the practising GSR experts in the UK are FSS trained. The size of the unit also allows it to carry out research projects and to create data bases that are essential in the understanding and interpretation of GSR. Dispersing the unit would make this more difficult and it would place a disproportionately higher burden on a provider at a time when budgetary concerns and costs are coming under such scrutiny.

6. FSS PROVISION OF GSR FORENSIC SCIENCE TO THE CJS

It is extremely difficult to see who will pick up the volume and complexity of GSR casework should the team be split up and divided between suppliers or police forces or indeed if the decision is made that GSR casework can be outsourced to a private company with an SEM and then the reporting is taken up by inexperienced Scientists. The identification and interpretation of GSR evidence is critical and this should only be undertaken by experienced Scientists with a wide knowledge of the range of both environmental and GSR particles that can be encountered. Firearms crime comprises some of the most complex and high profile casework submitted to the FSS and the GSR team are the most experienced in the country. A number of the experts were involved in the investigation into the shootings of Jill Dando, Rhys Jones, Raol Moat and Jean Charles de Menezes. More recently the FSS assisted the Police Service Northern Ireland (PSNI) with the investigations into several IRA shootings as they did not have the capacity to deal with the amount of work. The senior members of the team have dealt with hundreds of gang related murders and attempted murders, including the fatal shootings of 15 year old Michael Dosunmu; Charlene Ellis and Letisha Shakespeare at a New Year party in Birmingham in 2008; Gerry Tobin on the M40 in 2007 and Craig Hodson-Walker at a Post Office in Worcestershire in 2009. The FSS staff have forged relationships with the IPCC and the Counter Terrorist Command (SO15) and have worked on numerous UK and International cases.

7. CONCLUSIONS

The GSR team are at the forefront in research in the field and the science will not evolve by diluting the expertise through division of the unit and exposure to market forces. The contribution GSR makes to the CJS can be immeasurable in terms of adding weight to criminal prosecutions in the most serious of crimes, namely those involving firearms, and the majority of this contribution originates from the FSS. As it currently stands there is no other private provider with the competent capacity to undertake the delivery of all of the GSR work carried out by the FSS or to take the discipline forward. The police have no recent experience in operating a niche specialised unit such as GSR (the MPFSL was largely an autonomous unit) and it would be a grave error of judgement to allow the system to fragment. The commercial market is less likely to allow experts to come together to share their knowledge. The best interpretation of the evidence will come when the expert is able to set the examination strategy, understands and is competent in the analysis and has a broad range of experience

on which to draw. In our opinion there needs to be a critical capacity of experienced scientists for such a niche specialised department to operate and for the current level of expertise to be maintained.

8. APPENDIX

The members of the GSR team are as follows:

Geoff Warman, BSc (Hons), PhD—Senior Reporting Officer, 30 years experience
Angela Shaw, BSc (Hons)—Principal Scientist, 10 years experience
Karen Rose, BSc (Hons), PhD—Senior Reporting Officer, 9 years experience
Robert McHardy, BSc (Hons), PhD—Senior Reporting Officer, 8 years experience
Helen Benskin, BSc (Hons), MSc—Examiner and Analyst, 5 years experience
Louise Cass, BSc (Hons)—Reporting Officer, 5 years experience
Korinna Vosper, BSc (Hons)—Reporting Officer, 4 years experience
Alice Hill, BSc (Hons)—Reporting Officer, 4 years experience

Dr Geoff Warman and Angela Shaw

11 February 2011

Written evidence submitted by Axiom International Limited (FSS 81)

EXECUTIVE SUMMARY

The Forensic Science Service (FSS) has been providing scientific services to the Criminal Justice System for the past 80 years. The emergence of a market in forensic science came about in an attempt to balance supply and demand, and it has been remarkably successful.

All of the work currently carried out by the FSS could be undertaken by the private sector.

The safest way to achieve transition would be for at least parts of the FSS to be sold off as they are, but this may not be practicable.

The most obvious alternative—transferring the FSS's work to other providers, will only work if the transition is managed to avoid loss of too many experienced staff, and if at least some of these staff go to an organisation which understands and can support the requirements of major crime investigation.

In any event, to safeguard quality and supply of forensic services and avoid miscarriages of justice based on incomplete or faulty science there is an immediate need to:

- Make adjustments to the procurement system to reflect the complexities of some forensic activities and the needs of the courts
- Rationalising the current trend for in-sourcing forensics by police

As soon as the market has stabilised, urgent attention should be given to developing a new model for delivering forensic services involving both police and provider resources to guarantee quality and maximise responsiveness and cost effectiveness.

Funds for R&D need to be assured—either through increased profits or direct grants from the Home Office or a combination of the two. R&D should involve partnerships between academia and operational laboratories.

INTRODUCTION

1. Axiom International Limited is a private company specialising in assisting overseas governments to improve their law enforcement infrastructure by providing forensic science and police training and a range of related activities (see Annex for more details).

2. Axiom's Executive Chairman is Lord John Stevens—former Commissioner of the Metropolitan Police; its Chief Executive is Professor Angela Gallop who, in 1997, co-founded Forensic Alliance (now LGC Forensics)—the only independent forensic company to provide comprehensive forensic science services and therefore competition across the board to the FSS, and its Managing Director is Chris Gregg QPM—described by his Chief Constable as the finest senior detective his force (West Yorkshire) had ever known. To this extent, the Company is ideally positioned to provide informed independent advice on this issue.

3. On the basis that, as Sir Winston Churchill put it “the farther backwards you can look, the farther forwards you are likely to see”, this submission begins by briefly rehearsing the history of forensic science provision in England and Wales before commenting on each of the questions the Science and Technology Committee has posed.

HISTORY OF FORENSIC SCIENCE AND THE FORENSIC SCIENCE MARKET

4. Modern forensic science in the UK can be traced back to the early 20th century when science was sufficiently well established to be able to make significant contributions to crime investigation.

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5. Increasingly tests were performed in small local authority laboratories, and by the 1930s some of these laboratories were transferred under Home Office control forming the beginnings of the Home Office Forensic Science Service (HOFSS, later the FSS). At roughly the same time, the Metropolitan Police established its own laboratory (ultimately to be subsumed by the FSS).

6. By the 1960s there were nine specialist forensic laboratories in England and Wales. With advances in technology came increasing reliance on forensic science and, despite investment in large new laboratories, by the 1980s demand was seriously outstripping supply. The Home Office decided the best way to restore balance was to change arrangements for funding. In 1991, it devolved the budget to individual police forces, arguing that if police had to pay directly for forensic services, they might use less of them. Since they could now choose where they sent items for analysis, this led to the emergence of a forensic market.

7. At first, competition to the FSS was limited to organisations already engaged in similar work. A prime example was LGC (Laboratory of The Government Chemist—privatised in 1996) which had been providing increasingly large scale drugs and toxicology testing to HM Customs and Excise since 1842. Then new forensic providers started to emerge, some encouraged by a Government initiative to increase the size of the National DNA Database to make it more useful.

8. Competition inspired much needed improvements in analytical turnaround times and costs of analysis. It provided novel approaches which led directly to the solving of several of our most complex and intractable crimes, and it started to make important contributions to innovation.

9. Police forensic budgets grew which prompted greater focus on value for money. This highlighted the difficulty of comparing one forensic supplier with another because they all described their services and calculated prices in different ways.

10. To overcome this and provide a greater degree of control, the police introduced a new procurement system for forensic science. This specified—through a series of “products”, the precise nature and level of service required, timescales for delivery, and quality and reporting standards to be met, with price the only real differentiator. Prices fell substantially which suited the police. But scientists were dismayed because they were left with little or no opportunity to use their skill and ingenuity to develop more effective investigative strategies than allowed by simple lists of “products” chosen by their customers. There was also less money to be channelled into research and development—the life blood of any scientific enterprise.

11. Compounding the difficulties was an all or nothing approach to contracts, resulting in huge swings of work between unsuccessful and successful providers which started to have a seriously destabilising effect on the market. The first to bear the brunt of these swings was the FSS because they had the largest share of the market, reflecting their historic monopoly.

12. In an effort to cut costs further some larger forces started to do more forensic work themselves within expanded forensic facilities of their own. Concerns began to emerge about quality standards in these facilities, about the wisdom of splitting analytical effort between two different organisations in the same case, and about the damage in-sourcing might be doing to the general health of the forensic market. But with renewed pressure on police budgets in the aftermath of the banking crisis, in-sourcing is increasing and external forensic laboratories are seeing work volumes and revenues plummet. The still embryonic market is currently in a state of turmoil—reflected and compounded by the recent decision to close the FSS.

SPECIFIC TOPICS ON WHICH COMMENT IS REQUESTED

1. What will be the impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?

1.1 The FSS is the single largest provider of forensic services in the UK, and it is one of only two providers to cover a sufficiently wide range of forensic science disciplines to enable the most complex crimes to be tackled effectively.

1.2 Removing the largest supplier, and particularly if this occurs over too short a timescale, will put great pressure on the other much smaller providers and it is far from clear that they will be able to cope. Combined with the increasing unattractiveness of the forensic market owing to its rapidly reducing size—through budget cuts and in-sourcing by police, and the difficulty of balancing the books following the introduction of an inappropriate system of procurement, providers may be far less ready than they were in the past to invest in new facilities and increased staffing levels.

1.3 Removing one of only two full service suppliers means that, unless some of the most experienced FSS scientists are relocated to another organisation, there will be only one firm left with sufficient scientific breadth and understanding to tackle the most complex cases. If the FSS cannot afford to maintain the necessary range of science then maybe no-one else can, and we shall become nothing more than the routine testing houses the procurement system envisages—a self-fulfilling prophecy.

1.4 Historically, the FSS has made important contributions to research and development—both nationally and internationally, and they have received additional funds in a variety of different ways to support this. Independent providers have also made significant contributions, relying on a percentage of profits for funding.

But with margins now being squeezed so tightly, it is increasingly difficult to deliver day to day services, let alone fund anything much in the way of research. Either the market has to become sufficiently profitable to support forensic innovation, or the Government will need to continue to fund it. Such innovation should be delivered through imaginative partnerships between academia and operational laboratories to raise standards while keeping the focus relevant.

2. What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

2.1 Closure of the FSS will inevitably increase the pace of in-sourcing by the police. This started some years ago in an attempt to reduce the forensic budget and is already having a significant impact on the size of the market and the quality of evidence provided to the criminal justice system.

2.2 Increasingly police staff conduct initial examinations of items within expanded facilities of their own, even to the extent of recovering tiny traces of material which they present pre-loaded in test tubes for forensic laboratories simply to conduct a specified type of analysis.

2.3 This brings the danger of unwitting bias as, from within the police investigative machine, they make increasingly fine selections about which items they can afford to examine. There is no requirement for police facilities to match the quality standards demanded of external forensic providers, giving rise to concerns about potential loss of evidence from items or, worse still, addition of "evidence" through unwitting cross-contamination. Fragmenting examinations between scientists and police personnel mean that neither of them can provide full interpretations of the findings because they each only have part of the picture, and there are real fears that reducing the role and responsibilities of forensic scientists will drive the best of them out of the business if they are not already lost during the current upheaval.

2.4 It is deeply disappointing that we are opening ourselves up to potential miscarriages of justice when this should have been a lesson well learned two decades ago.

3. What is the financial position of the Forensic Science Service?

3.1 Others are better qualified to answer this question than we.

4. What is the state of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the Forensic Science Service and the volume and nature of the forensic work carried out by police forces?

4.1 The state of the forensics market in the UK is currently very fragile. This is partly because of a procurement system which treats all forensic science as a commodity—to be bought and sold as a series of simple tests or activities with no acknowledgement of necessary subtleties at the more complex end of the scale. It is also partly because increasing in-sourcing by police is reducing the size of the market and making it increasingly less attractive to invest in. This fragility of the market will worsen unless and until these two fundamental issues have been addressed.

4.2 The private sector is perfectly capable of carrying out all of the work currently undertaken by the FSS provided it has time to adjust and not too many highly skilled and talented scientists are lost in the process. Indeed, it was the private sector that led the way in substantially reducing turnaround times for routine analyses and making them much more cost effective. It was also the private sector which helped to solve many of the UK's most complex and intractable cases including, for example, Lynette White, Damilola Taylor and Rachel Nickell, with exoneration of long term suspects—The Cardiff Three and Colin Stagg. This was not, as commonly supposed, simply due to use of new technologies, but also to innovative approaches to finding evidence, and the constructing of novel strategies for testing it. And it is the private sector that has been developing the most versatile of the new generation of rapid DNA techniques.

4.3 So, if given sufficient time for an orderly transfer, and ensuring relocation of a good many of the most experienced and talented scientists to organisation(s) which understand and can provide for their needs, and with proper confidence in the future of the market, the private sector will be well able to absorb all of the work currently undertaken by the FSS. But these conditions must be met for this to happen.

4.4 Looking further ahead, we need to introduce an imaginative new model for forensic delivery, using infrastructures already in place in police and provider facilities and exploiting the very different requirements of everyday versus complex investigations. We should be pleased to outline our ideas about this if that would be helpful.

5. What are the alternatives to winding-down the Forensic Science Service?

5.1 Alternatives to winding-down the FSS and allowing other providers to pick up the slack might include continuing to support it within the Home Office, selling it off—either in whole or in part, to other providers or, more dramatically, re-nationalising the service.

5.2 Since the emergence of the market in 1991, the FSS has enjoyed preferential treatment both in terms of its status—as part of the Home Office with early knowledge of government intentions/aspirations and initially

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as ACPO's "preferred supplier", and in terms of additional Home Office funding. To this extent, the FSS has had many years and a good deal of support to get its house in order and become a properly commercial supplier to the market. Continuing its unfair advantage over other suppliers, especially in the current difficult market conditions would therefore not seem to be a realistic option.

5.3 The safest thing would be to sell off the FSS to other provider(s), possibly splitting routine testing from more complex investigative activities. There are several companies who could successfully take on the routine testing, but there would be more difficulty with finding a suitable home for investigative parts of the business. But whether or not such arrangements are a real option would obviously depend on price, and price would presumably have to acknowledge TUPE arrangements for staff, the condition and contents of laboratories and any risks associated with past performance. We are not sufficiently close to any of this for further comment.

5.4 Re-nationalising the FSS would not appear to be an option. When our criminal justice system relied solely on the FSS before, performance was dogged by long case turnaround times, higher prices than might have been warranted, insufficient engagement with the wider scientific community for new ideas, and a state of mind which too often confused what "can not be done" with "what can not be done by us". Competition has swept away all of this, and we must not reinvent this particular wheel.

6. So far as they are known, are the arrangements for closing down the Forensic Science Service, making staff redundant and selling its assets adequate?

6.1 The staff are amongst the most valuable of the FSS's assets. It takes many years to train forensic scientists especially to deal with complex matters, and this is the single most worrying aspect of the closure. With the current dysfunctional market, it is not enough to expect the best of these scientists to find homes with other providers. Many will have lost all confidence in forensic science as a profession—partly from a job security point of view and partly because it no longer offers scientists the same professional challenges it should and once did.

6.2 To this extent, the "arrangements" should include urgent remedial action to protect and improve the market, and satisfactory transition of enough staff and the right staff from the FSS to other appropriate providers.

DECLARATION OF INTERESTS

6.3 Reflecting aspects of Axiom International's activities, the Company has expressed an interest in understanding arrangements for the disposal of:

- SceneSafe—the FSS's forensic collection kits and consumables business
- International business such as training and infrastructure development

This interest has been inspired solely by the fact of closure; it formed no part of any pre-existing plan.

Professor Angela Gallop, Chief Executive

Mr Chris Gregg QPM, Managing Director

Axiom International Ltd

11 February 2011

Annex**AXIOM INTERNATIONAL LIMITED—COMPANY PROFILE**

Axiom International was established in 2010 in response to a growing need from overseas authorities to improve their law enforcement infrastructure, and a recognition of the UK's historic reputation in this area.

Key members of the Axiom management team are Lord John Stevens—considered by many to be the most successful Commissioner of the Metropolitan Police in modern times, Professor Angela Gallop—known equally for setting up and running full scale forensic laboratories and leading some of the UK's most complex forensic re-investigations, and Chris Gregg QPM—described by his Chief Constable as the finest senior detective the force (West Yorkshire) had ever known.

Working with selected universities, forensic providers and policing agencies and other strategic partners, the Company provides a range of inter-related services including:

- Comprehensive police and forensic assessments—to establish areas for improvement to national and local infrastructure
- Designing and equipping forensic science laboratories—maximising the benefits of modern techniques and working practices
- A full range of forensic science and police training courses—raising standards to meet international best practice

- In-country support—to ensure new skills and facilities are properly integrated into local criminal justice systems
- Powerful forensic and police re-investigations—breathing new life into the most challenging stalled cases
- A unique range of forensic sampling products—to capture the most material for the best evidence

Axiom International Ltd is privately owned.

**Written evidence submitted by Professor TJ Wilson,
Northumbria University Centre for Forensic Science (FSS 82)**

For the purpose of the required declaration of interest, I should perhaps state that my research centre might be seen as competitor to the FSS for forensic management consultancy work and, eventually, more complex genetic analysis.

I should also state that I am a former member of the Senior Civil Service and had some responsibility for the FSS in 2003–05, and that after leaving the Home Office I have undertaken consultancy work relating to forensic science and pathology for my former department, ACPO and NPIA. The content of memorandum, however, is based solely on publicly available material and my research will be incorporated in a forthcoming peer reviewed article that I am writing jointly with Dr Angela Gallop. Dr Gallop is a visiting professor at this university and is a former Chief Executive of Forensic Alliance, one of the FSS's competitors for work.

INTRODUCTION

1. This memorandum has been written chiefly in response to issue four (the state of, and prospects for the forensic science market) of the Select Committee's terms of reference for this inquiry.

ORIGINS OF THE PRESENT CRISIS AND KEY ISSUES THAT WILL DETERMINE ITS RESOLUTION

2. The FSS has been a major contributor to the current unprecedented standing of forensic science globally and criminal justice in this country would have been the poorer without it. Undoubtedly the FSS and its main competitors and collaborators (including university scientists) have:

- Raised the professional authority and independence of forensic scientists within the criminal justice system.
- Ensured greater speed and economic efficiency in the delivery of forensic science compared with many, if not all, other G20 countries.

Both these achievements that stem from arrangements that are as much complementary, as they are competitive, in contributing positively to the developments of forensic science, are now at risk.

3. The origin of present crisis at the FSS has been ascribed to a combination of a privatisation strategy, a limited market and lowest price commoditisation.ⁱ The interactions of these three factors are complex and not easy to analyse. This problem is compounded by the extent to which they have not all been pursued with the same vigour and the policies behind them have evolved significantly over the years resulting in varying impacts. It might be helpful for the Select Committee, therefore, to place the context of the Government's decision to wind-down the FSS in a sufficiently extended time scale.

4. This decision comes after a series of carefully considered, but ultimately unsuccessful attempts during the Thatcher, Major, Blair and Brown Governments to find a stable, efficient and effective arrangement for financing the FSS and funding forensic science for the benefit of criminal justice. Much of this took the form of seeking to create a market. Initially this was planned as an arrangement internal to the public sector, in which the FSS was virtually a monopoly supplier. Eventually more effective arrangements, in the form of a more competitive market or pluralistic provision emerged, but, arguably, one in which for a long time the FSS enjoyed a privileged position.

5. A study of the history of the travails of the FSS suggests that the principal objective of public policy needs to be that of ensuring sufficient public expenditure is allocated to forensic science to maintain the current benefits it provides for criminal justice. The vital secondary question is how this funding might be effectively distributed to and accurately accounted for when dealing with individual cases. Without such policies and concomitant governance it is unlikely that forensic science will be provided in a stable, effective and efficient manner to the police and CPS, and the other equally important CJS stakeholders: the courts, defence lawyers and the Criminal Cases Review Authority (CCRA).

THE ORIGIN AND NATURE OF THE MARKET IN FORENSIC SERVICES

6. The concept of a market in forensic science appears to have originated—initially internal to the public sector with charges as a form of rationing and with the FSS as virtually a monopoly supplier—as a recommendation by Sir Derek Rayner in 1981.ⁱⁱ This was not acted upon. Instead the Home Office undertook to strengthen FSS management and cut 34 scientific staff posts. The effect of this during a period of rising

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crime and advances in techniques can be easily imagined. The impact was compounded, however, by a series of damning miscarriages of justice involving errors or inadequate evidence by both the FSS and the Royal Armament Research and Development Establishment (RARDE). Most notably in the cases of The Birmingham Six, The Maguire Seven and Judith Ward, the limitations of scientific methods and exculpatory evidence had remained undisclosed within laboratories or government. Consequently by 1989 the Home Affairs Select Committee reported in that the FSS could not meet the demand for its work and that “morale was at rock bottom”. The Committee supported the introduction of charges to balance supply and demand.ⁱⁱⁱ This solution—introduced in 1991—was also endorsed by the Royal Commission on Criminal Justice (1993). Influenced no doubt, by the problems exposed by the series of miscarriages of justice and the recognition of the need for independent authoritative advice for defence lawyers and the courts, the Royal Commission envisaged plurality of supply within a competitive market with everyone—police and provider staff—working to common QA standards.

7. The introduction of charges did not transform the situation for the better for either the criminal justice system or the FSS. As far as the former was concerned, as the miscarriage cases demonstrated, effective but limited alternative expertise could be tracked down in academia. Defence lawyers faced a major problem until Forensic Alliance was created in 1996. Until then most of alternative expertise was confined to the analytical testing of drugs and toxicology. As for the FSS, its relationship with the police appears to have veered between what the Rayner Scrutiny Team (1981) had described as the “indiscriminate use of forensic science” and a tendency identified by Touche Ross (1987) for “selectivity [to go] too far”. Police expenditure on forensic science declined and it is particularly noteworthy that scene attendance halved between 1989–90 and 1994–95. The under resourced FSS attempted to manage its workload through internal rationing: by undertaking less work on each submitted item. Research by Tilley and Ford enables us to see the result of charging: the creation of two police commissioning models. One took the form of case by case submission decisions driven by perceptions of investigative needs, but which risked periodic budgetary crises. The alternative mode was centrally rationed submissions driven by the priority of keeping within capped budgets rather than a judgement about what was needed in each case.^{iv}

8. It is clear from this research and associated publications that a serious effort was made to address these problems between approximately 1994 and 1996. A coordinated programme of business development and research was initiated to resolve the problems of rationing, greater transparency and predictability in pricing and how to create the right kind of professional relationship between scientists and investigators. The aim was to enable forensic science to make an “efficient as well as effective contribution” to criminal investigation. It is disappointing, however, given the shortcomings exposed by such major miscarriages of justice, and the problems of court and defence access to scientific expertise acknowledged by the Royal Commission, that no real consideration appears to have been given at this time to the needs of other criminal justice stakeholders.

9. Despite the emergence of highly competent and dedicated competition with the creation of Forensic Alliance (FAL) in 1997, there is no evidence that anything resembling a market existed until the early years of the last decade. Even then the FSS enjoyed a privileged position. For example, in 2004 FAL gave evidence to the Select Committee about the way in which the FSS was “embedded in Government” for the receipt of research funding and how this enabled them to scrutinise competing ideas from other forensic providers.^v This had been reinforced locally by the exclusion of non-FSS forensic scientists or representatives from meetings of the staff—the scientific support managers—who commissioned forensic work.^{vi}

10. Further support for this view comes from Williams and Johnson’s examination of the origins of the DNA Expansion Programme. This transformed the global standing and perceptions of the usefulness of forensic science in England and Wales. This was achieved by a £300 million plus investment by the Home Office and the police in the use of automated DNA analysis in volume crime and related tasks such as latent fingerprint collection.^{vii} Williams and Johnson have commented on how this programme was the result of “[p]olitical enthusiasm occasioned by the orchestrated claims of the two key agencies involved—the FSS and ACPO”^{viii}, a description that amounts to an example of “plan bargaining”. This is a typical feature of a planned economy, not a competitive market. Furthermore, despite the presence of two other providers engaged in DNA typing, the FSS alone received a Home office subsidy of £1.2 million pounds for the “Pathfinder” project (2000–01). This was intended to demonstrate that volume crime detections could be improved by the use of low template DNA profiling.^{ix}

11. Ironically the DNA Expansion Programme appears to have made real competition possible for the first time by lowering the barriers to entry to the forensic market. These would have been reinforced by a scientifically justifiable emphasis on greater professional collaboration between the police and the FSS in the Case Assessment and Interpretation (CAI) initiative (1996). Automated DNA testing, however, is a different kind of business—industrial scale scientific analysis—from how forensic science had traditionally been organised as exemplified in CAI. There was considerable expertise elsewhere. LGC, for example, had undertaken volume scientific analytical chemistry organisation in the public health and agricultural markets for many years. It had already successfully entered the criminal justice market through drug analyses. It was well placed, therefore, to compete with the FSS over both price and speed of analysis for volume DNA work. Moreover, assured government investment transformed business prospects, encouraging the LGC to open DNA laboratories, first in London and later in Cheshire.

12. This transformation was further supported by other factors:

- Treasury approved linkage between police performance targets and their revenue budgets required the FSS to introduce a more transparent and commoditised approach to charging (Product Pricing in 1996). This was an approach that was ideally suited later to large scale DNA testing. FAL and LGC responded flexibly to police requirements and attitudes rapidly changed. ACPO abandoned its “preferred partner” approach that had hitherto benefited the FSS and multi-sourcing was adopted by the FSS’s biggest customer, the Metropolitan Police, in 2003.
- With the initiation of the DNA Expansion Programme FSS performance, as a near monopoly DNA supplier in that country, failed to satisfy the Scottish police forces. This resulted in the creation of a separate DNA database and public sector investment in automated DNA analysis^x despite (as indicated by the subsequent closure of an LGC laboratory) surplus capacity within the UK as a whole.
- The professional reputation of the FSS was damaged by a highly visible series of prominent casework failures resolved by FAL: the investigations into the murders of Lynette White, Rachel Nickell and Damilola Taylor. Also technical failures by the FSS resulted in a failure to load 26,200 samples to NDNAD because of “administrative problems”, delaying 1,168 match reports (equivalent to almost 3% of total crime scene to subject matches in 2008/09).^{xi}

13. In 1998 perceptions of the private sector recorded by the NAO were of “niche players” or companies active in limited market sectors (eg drug analysis, toxicology and defence work). By 2003, however, it was estimated that the FSS had lost 8% of serious crime and 17% of NDNA related work.^{xii} By then attitudes had also changed within FSS management and Home Office. It was recognised that a “small but effective and dynamic private sector” had “resulted in an increasingly competitive market in forensic science services”. The then Home Secretary, Mr David Blunkett, endorsed the conclusions of the McFarland Report (2003) that the FSS “faced a sustained and accelerating loss” of market share and would only prosper in the private sector.^{xiii} By December the Government signalled that the privatised FSS should not enjoy embedded privilege when the Minister of State announced that the Government had accepted the Macfarlane recommendation that when the FSS was privatised the National DNA Database should remain exclusively under public sector control.^{xiv} However, as a government owned company, it was supported from 2005 by the Shareholder Executive and was able to obtain £50 million from the Government for its restructuring programme.

14. The changed fortunes of the FSS appear to have been affected by two factors. First, after a change of Home Secretary (from Mr Blunkett to Mr Clarke) ring-fenced central funding for forensic science was abandoned. Second, a procurement strategy: the NPIA led National Forensic Framework Agreement (NFFA). This appears to have maximised commodification and disaggregation of supply (ie a number of different providers might handle different tests in a single investigation). Thus the lowest possible prices might be obtained at the expense of optimising value through the effective use of scientific expertise. Scientists and investigators could no longer be guided by systematically exchanging contextual information and scientific results as anticipated in CAI. Its critics also referred to a “perverse” development with the police setting up rival laboratories.^{xv} Matters then came to a head with the Comprehensive Spending Review which required major reductions in Home office and police budgets.

THE POTENTIAL EFFECT OF THE CLOSURE OF THE FSS ON CRIMINAL JUSTICE AND POSSIBLE MITIGATING MEASURES

15. Past events demonstrate how stable and effective funding with concomitant governance are essential for maintaining the current pluralism and independence within forensic services. Without policies and an institutional structure to achieve this, both the integrity of evidence and future development cannot be assured.

16. If the closure of the FSS remains Government policy, it will be essential to:

- Secure the immediate and long-term storage of cellular material, DNA records, casework notes and exhibits held by the FSS.
- Retain and redeploy many excellent scientists and forensic team members.

Instead of selling some laboratories and equipment to other providers such assets might be leased.

17. Consideration should be given to the feasibility of replacing the current highly disaggregated supply of services and products under NFFA with regionally delivered contracts negotiated for the supply of forensic services (not disaggregated products) from three or four national providers. This arrangement needs to balance concerns about ensuring value for money against security of supply. For this purpose use could be made of measures such as open book accounting and arrangements within an institutional structure that would ensure:

- Step-in to vary contract terms in order that resources can be effectively mobilised and deployed to deal with mass fatality incidents or complex investigations into serious crime, or ensure that any loss or failure to gain external accreditation is remedied.
- Police laboratories only undertake forensic work when it is done to the same external QA standards as private sector laboratories, this should also be enforced through step-in arrangements and costs should be transparent.^{xvi}

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- Access for the courts, defence lawyers, IPCC and CCRA to forensic providers not commissioned by the police force responsible for the investigation of a case where scientific evidence or scientific strategies are questioned.
- Mindful of the White, Nickell and Taylor investigations, senior investigating officers can have access to independent forensic advice or audit.

18. To resolve potential tensions between forensic scientists engaged in team work during an investigation and the independence eventually required for their probative role, consideration should be given to clarifying the role and strengthening the authority of reporting officers and a chief scientist in each provider organisation. Mindful of previous miscarriages of justice, the small number of such staff within each organisation might be subject to individual registration, quality assurance and discipline similar to the arrangements for forensic pathologists. If such arrangements are put in place, the courts and defence lawyers should be represented alongside other CJS stakeholders in the governance of these posts.

19. Restoring stability to the market is essential. The FSS may not be the only provider facing a crisis in the absence of Government funding or volume guarantees. An appropriate analogy is the volume guarantees that finally facilitated private investment in the High Speed 1 rail link.

RESEARCH AND DEVELOPMENT

20. The current pluralism and independence within forensic services and the ability of forensic scientists in England and Wales to undertake forensic work at least as good as that in other G20 countries will require the creation of an institutional structure to manage and support the pluralistic provision of and research in forensic sciences, within a governance framework for forensic sciences and medicine. Mindful of concerns about the privileged position enjoyed by the FSS in the past, the new arrangements need to be transparent and accountable to Parliament, all CJS stakeholders and the public. All forensic providers and universities should enjoy equal access to research funds made available by government and the police.

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14 February 2011

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^{vii} Home Office (2006), *DNA Expansion Programme 2000–2005: Reporting achievement* (London, Home Office)

^{viii} Williams and Johnson (2008), *Genetic Policing* (Cullompton, Willan) p.124

^{ix} Burrows et al (2005), *Forensic Science Pathfinder project: evaluating increased forensic activity in two English police forces* (London, Home Office); see also Williams and Johnson, op. Cit. pp. 118–121, for the extent to which initial FSS and ACPO claims exceeded the results of this trial

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^{xi} NPIA (undated) *NDNAD Annual Report for 2007–09* (London, NPIA)

^{xii} NAO (1998) *Forensic Science Service* (London, HMSO) and NAO (2003) *Improving Service Delivery: The Forensic Science Service* (London, The Stationery Office)

^{xiii} Hansard, 17 July 2003, col.62 WS

^{xiv} Hansard, 9 December 2003, Col. 403 W

^{xv} O'Neill, S. (2010) "Fears for criminal justice as police save money on forensic science", *The Times*, 19 July 2010 and Gallop, A, Letter to *The Times*, 30 December 2010

^{xvi} For a classic example of forensic opacity see McCartney et al op. cit. paragraph 2.19.

Written evidence submitted by the Criminal Cases Review Commission (FSS 83)**THE TERMS OF REFERENCE**

1. *What will be the impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?*
2. *What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?*
3. *What is the financial position of the Forensic Science Service?*
4. *What is the state of, and prospects for, the forensics market in the UK, specifically whether the private sector can carry out the work currently done by the Forensic Science Service and the volume and nature of the forensic work carried out by police forces?*
5. *What are the alternatives to winding-down the Forensic Science Service?*
6. *So far as they are known, are the arrangements for closing down the Forensic Science Service, making staff redundant and selling its assets adequate?*

INTRODUCTION

1. The Commission is grateful for the opportunity to submit written evidence and does so primarily on the first two terms of reference. The Commission is keen to make clear that it uses a number of forensic providers but that it has worked in the main with the scientists and other staff members of the FSS. For any avoidance of doubt, the Commission would not wish its submission to be interpreted as meaning that it does not have confidence in the current alternative providers. It does; what is addressed below are issues regarding the vacuum which will be created by the closure of the FSS.

BACKGROUND

2. The Criminal Cases Review Commission was the first organisation in the world created to investigate alleged miscarriages of justice and, where appropriate, to refer cases back to the appeal courts. There are currently only two other Commissions, the Scottish Criminal Cases Review Commission and the Norwegian Criminal Cases Review Commission.

3. The Commission was established on 1 January 1997 by the Criminal Appeal Act 1995. The Act sets out that the Commission can refer a criminal conviction, verdict, finding or sentence to the relevant appeal court when it considers there is a real possibility that it will not be upheld.

4. There are currently nine Commissioners appointed by the Queen on the recommendation of the Prime Minister. They are supported by 80 staff based in offices in Birmingham.

5. Our key role is to review alleged or suspected miscarriages of justice with a view to possible referral to an appeal court if it is the Commission's view that there is a "real possibility" (the statutory test) that a conviction, verdict, finding or sentence would not be upheld. As of 31 January 2011, the Commission has received 14073⁵⁰ applications and has referred 467 back to the relevant appellate court.

6. We review cases by:

- Using our own resources and expertise (for example, case reviewers and Legal & Investigations Advisers);
- Using our powers under section 17 of the Criminal Appeal Act to obtain relevant material held by public bodies;
- Commissioning outside experts to prepare reports; and
- Requiring the appointment of an Investigating Officer under section 19 of the Act.

7. We examine the whole gamut of criminal offences from minor road traffic offending up to the most serious of offending such as sexual offences and homicide. Many of our cases can be reviewed extremely quickly, others can be extremely complex in nature and our investigation last a number of years.

8. During the course of carrying out a review, extensive enquiries may take place. Much of our work may be about building a picture of what may have gone wrong during an investigation or prosecution. It may be about examining potential new evidence; it may also be about instructing experts across all disciplines. Whilst the Commission can only review those convictions or sentences from within England, Wales or Northern Ireland, it is not uncommon for our investigations to take on an international flavour.

9. The sheer breadth of our casework and the experience we have gained from our work means we have a very good insight regarding what can go wrong (and of course, of what works very well) in the CJS providing us with a bank of information which can be drawn on by others. With that in mind, we have been keen to open our doors to researchers; and currently have two research projects underway.

⁵⁰ Total applications includes 279 cases transferred from the Home Office when the Commission was set up in 1997

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10. Furthermore, Commission staff and Commissioners are drawn from a wide range of backgrounds including legal, investigative, scientific and medical. The breadth of expertise within the Commission is recognised by many who seek our presence on multi-agency groups. Of particular relevance to this submission is that the Commission is represented on the Forensic Science Advisory Council.

11. All of this means that during the 14 years of our existence, the Commission has built up a great deal of expertise placing us in a unique position to be able to comment on issues affecting the CJS.

12. Many of our reviews involve the world of forensic sciences and we have worked closely with a whole range of experts and scientists from the FSS in many cases. From data held by the Commission it is apparent that from April 2005 we have instructed formally the FSS on well over 100 occasions⁵¹ in our casework as well as calling on the FSS for more generalist advice.

13. In light of our extensive experience and expertise and the pivotal role the Commission plays in the CJS, the Commission is surprised not to have been consulted prior to the decision being taken to wind down the FSS.

14. Our observations fall into two categories; the direct impact that closure may have on the casework of the Commission, and the wider impact on the CJS.

IMPACT ON THE WORK OF THE COMMISSION

15. Section 17 of the Criminal Appeal Act 1995 gives the Commission extensive powers to obtain material held by public bodies. This power places the Commission in a unique position and often means that the Commission can access material during the course of its review which was not available to parties during the investigation or prosecution. This includes the power to obtain files, materials and samples held by the FSS. Without our section 17 power the Commission would be significantly hampered in its work and it would undoubtedly lead to miscarriages of justice not being corrected and a consequent loss of confidence in the CJS.

16. The members of the select committee will of course be familiar with the history of the FSS and so it is not repeated here other than to say that prior to the FSS becoming a limited company in 2005, there was no question that the FSS was a public body and so we were able to use fully our section 17 powers. In 2005 the FSS became a GovCo, a company owned entirely by the Government. This meant that as the FSS continued to be funded from the public purse there was again no question regarding the use of our section 17 powers. The FSS has continued to fulfil its statutory obligation to provide us with the information or material we require.

17. It may be helpful to the select committee if we illustrate by example the sort of material the Commission may need in a review. In a murder, where the applicant to the Commission is saying that he didn't do it, and there appears to be no independent evidence to either confirm or undermine the applicant's account, it may be that we will want to see what forensic science work took place during the original investigation. Sometimes it may be evident from the CPS or police file. On other occasions we may need to go further and examine the files held by the FSS. We may be aware (or may be advised by the FSS) that a science, for example, DNA profiling, has moved on. We might want therefore to see if there are tissue samples or other samples which may be available for testing.

18. Such a process can reveal a miscarriage of justice.⁵² Often, however, it may be simply about needing to see FSS files to consider what the rationale was for a particular course of action or to be reassured that all possible forensic avenues were explored. This information is also valuable to the Commission as it may point to the safety of the conviction under review; and that is an important aspect of the work of the Commission.

19. Since 2005 our figures suggest that we have requested that the FSS preserve or make available to us material on over 150 formal occasions. It is suggested that this is a conservative estimate in that there are likely to have been many instances when Commission staff may not have used the formal section 17 route.

20. If on closing the FSS the work is distributed in some way to a number of companies then without special arrangements being put in place the Commission will not be able to access material which can go to the very heart of a review. Not only will the work currently underway need to be re-distributed but so will the vast quantity of scientific material/evidence held in its archives, storage facilities and on its data bases. It is this information that is crucial to investigations, some of which are only possible with scientific advancements which could necessitate accessing material many years post conviction.

21. This is because the Commission has no power to compel a private body or individual to make material available to us. The impact this will have on our work should not be underestimated and will be nothing short of disastrous for the Commission's casework, for those who may have been suffering a miscarriage of justice and for the wider CJS. This will undoubtedly mean that cases which would otherwise have been referred back to the appeal courts will not be and conversely cases which could be concluded quickly (because the use of our section 17 powers can confirm that the conviction is sound) will take a great deal longer to conclude.

⁵¹ This figure does not reveal the true extent of how much the Commission has worked with the FSS as it does not reflect the occasions on which informal advice has been sought, along the lines of requesting a steer or some guidance on what services may be possible in any given case. Such exercises are often complex and it can be time consuming to the scientists involved but it ensures that the Commission is able to make fully informed decisions about what is appropriate in any given case.

⁵² One example of improved techniques is the Commission's referral in the case of Hodgson (*R v Hodgson* [2009] EWCA Crim 490) where the re-examination of crime-scene material by the CPS yielded a DNA profile that was incompatible with the prosecution's case at trial.

22. Whilst there are a small number of alternative forensic providers, the FSS has been for many years the only provider of forensic services to the police. This means that to date, the vast majority of the material the Commission needs to retrieve from a forensic provider will be with the FSS.

23. We understand that some police forces have started to enter into contracts with providers other than the FSS for the provision of forensic services. This means that over the next few years it is likely that the Commission will have to engage in negotiation with those current alternative providers to ensure we can continue to have access to material. We are aware of only a handful of cases in which the Commission has had to go to the alternative providers who provided assistance to the police at the time of the investigation. The Commission met with no resistance and indeed it would be counter intuitive for one of the main FSS competitors to negotiate police contracts and then decline to pass to the Commission material.

24. However, it is one thing to have a statutory right to obtain material, and entirely another to have to negotiate for it; and at the moment there are a very limited number of alternative providers who are each taking an increasingly larger market share. As the Commission has only a limited understanding at this time of the practical consequences of transferring or selling off as much of its operations as possible, we have no idea how fragmented the market might become, which other providers might enter into the market place and, as well as the risks to the Commission, what opportunities there might be for an improved service. We anticipate some of this work may move to overseas providers. However, as our powers do not extend to obtain material from private bodies⁵³ (or from abroad) it will be impossible for the Commission to do its job properly without immediate changes; an interim solution for securing a safe and effective transition is suggested in the paragraph below.

25. If parts of the FSS are sold off it would be essential that legislation was passed contemporaneously⁵⁴ to ensure the Commission is able to obtain material from private bodies. Alternatively binding conditions would without exception need to be built into the various contracts as they are awarded to ensure that new companies are obligated to comply with our requirements.

THE ARCHIVE

26. The loss of the FSS archive is equally of concern to the Commission. It is understood that the FSS currently holds over 1.5 million files and many more samples. This incredible archive (which is undoubtedly extremely expensive to monitor and store) includes material related to offences committed decades ago.

27. There is no time limit on miscarriages of justice. The Commission has reviewed cases which go back 30 or 40 years; and looking forward, with continued advances in scientific techniques, it is impossible to say that a conviction which appears safe today may appear less so in 10 or 20 years. The Commission needs to be reassured that if we need to access archived material from an offence committed a long time ago that we will be able to locate it quickly, that it will have been stored correctly and that there will be an adequate audit trail necessary to prove continuity of evidence should it need to be relied on in future proceedings and for it to carry sufficient evidential weight.

28. The FSS archive needs to be maintained. Its existence is essential to reinforce confidence in the CJS⁵⁵ and essential to the work of the Commission. If the archive is broken down and distributed to police forces, which may be one possible option, the degree of fragmentation will be huge, and undoubtedly very expensive to manage. It increases the risk of material going missing if it is not held centrally. It will certainly increase the time taken for the Commission to review cases. Once fragmented, the archive will also be lost for ever in terms of its research and development potential.

29. If the archive is sold off to one or more private companies then our section 17 power will not be engaged (see paragraph 15 above) thus making it difficult or impossible to obtain material. An extension to our section 17 power to include private bodies will be essential as will in the short term an immediate and binding contractual clause written into each contract allowing the Commission access to the archive on a similar basis as our section 17 powers. We can only reinforce how important it is that under the new arrangements the archive is held securely and continues to be publicly available.

IMPACT ON THE WIDER CJS

30. We do not know what thought has been given to putting in place alternative arrangements and it may be that the following issues are being addressed fully. However, in the absence of any information regarding what those arrangements may be, we highlight the following issues which the select committee may wish to explore further.

⁵³ We have made clear, with support of our sponsor department, the Ministry of Justice, the need for our powers to be extended to the private sector as they do for the Scottish Criminal Cases Review Commission.

⁵⁴ The Commission is acutely aware of the difficulties of finding a suitable piece of legislation or of finding some legislative time. We are concerned, therefore, that even if a concession is made that our powers be extended into the private sector that it would be difficult to find Parliamentary time for it.

⁵⁵ It should be noted that often the findings of the Commission on further forensic work taking place is that there is not a ground to refer back a case to an appellate court.

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RESEARCH & DEVELOPMENT

31. We are conscious that the FSS is a leader in the field of research and development and its research was instrumental in the development of DNA profiling techniques. Its R&D work led to the development of the DNA database.

32. If the FSS is wound down, it is not clear who will fill the R&D vacuum. R&D, which is an extremely expensive long-term function, cannot be allowed to stagnate. Whilst other companies clearly have a R&D role, the impact of the loss of the FSS research function should not be underestimated.

DATABASES

33. The FSS holds a number of significant databases. These include the National Firearms Database and the Footwear Intelligence Technology. Both of these are valuable sources of information which would need to be housed. We are not aware of any risk assessment taking place regarding the impact on the CJS if this information were to be lost.

LOSS OF EXPERTISE

34. The FSS has built-up an impressive core of extremely experienced and skilled staff whose scientific knowledge is of the highest calibre. The value of that body of knowledge to the CJS should not be underestimated and the Commission is concerned that such a valuable knowledge base may be lost if the FSS is broken up.

TRANSITIONAL ARRANGEMENTS

35. There used to be a great deal of legal challenge many years ago regarding the veracity of some forensic evidence; it was not uncommon for evidence to be challenged because proper evidential continuity of evidence could not be shown. Whilst this is much less of an issue these days (because the defence can no longer ambush the prosecution in this way and because of the acceptance of forensic evidence) the Commission can foresee a situation where poor transitional arrangements will again open the door to these problems.

36. It is essential that there is continuity of evidence of forensic exhibits without which forensic evidence may not be admissible. How will material be moved to other providers, what records will be kept and who will be in a position to be able to provide evidence as to the evidential continue of a particularly piece of forensic material to the standard rightly demanded by a court of law. This problem may be exacerbated if the alternative arrangements are likely to include a diverse pool of providers.

CONCLUSION

37. The Commission has identified what it sees as some of the main risks to its ability to function effectively and also the significant risks to the wider CJS arising directly out of the decision to close the FSS. The Commission is also aware that there may be a number of opportunities arising from the proposals which may in the longer term even improve the current quality, efficiency and effectiveness of the current service. Finally the Commission looks forward to being fully engaged in the next crucial steps of the process.

Criminal Cases Review Commission

10 February 2011

Written evidence submitted by Catherine Turner and Orlando Elmhirst (FSS 84)**CATHERINE TURNER**

I graduated from the University of Bradford, England with a Bachelor of Science (Hons) degree in Biomedical Sciences. I have been a forensic scientist with the Forensic Science Service for over 22 years, working predominantly in the field of offences against the person. During this time I have attended scenes of crime, presented expert opinion in court, and provided training to others.

I am currently the National Lead Consultant in Cold Case Reviews for the Forensic Science Service, and latterly have been involved almost exclusively in local and national initiatives involving the review of historic homicide and sexual offences. In this field, I am co-author of the Home Office Police Standards Unit's "Good Practice Guide—Cold Case Reviews of Rape and Serious Sexual Assault", published in 2005.

ORLANDO ELMHIRST

I have worked for the Forensic Science Service as an Implementation Manager, within Business Development, for 13 years. For the 15 years prior to that I worked for three different police forces (MPS, Cambridgeshire and Leicestershire) within the Scientific Support Units, in roles such as CSI, Head of CSI and Scientific Support Manager. I am the author of Chapter 2 "The Crime Scene" in the Royal Society of Chemistry's publication "Crime Scene to Court: The Essentials of Forensic Science".

INTRODUCTION

1. The Government has experimented with the privatisation of forensic science. This submission intends to demonstrate, with empirical evidence, that, in practical terms, this is not working and that the police service has been reacting against this agenda by in-sourcing forensic functions that Forensic Service Providers (FSP) used to conduct. In-sourcing is a form of surreptitious re-nationalisation.

2. The ad hoc police in-sourcing of forensics will lead to inherent problems associated with parochialism.

3. The costs and value associated with the forensic science provision from crime scene to court is both inconsistent and not viewed holistically. This must prevent any meaningful analysis on which to base rational decisions by all parties concerned from Crime Scene Investigators (CSI) to Ministers.

4. It will be argued, using the review of cold cases as an example, that a centralised coordinating body should exist. This body would enable research and development of new products and permit a pooling of expertise, knowledge and information.

5. Finally it will be suggested that a police organization is not an appropriate body to “own” such a function. Forensic science should be, and be seen to be, independent and impartial to an investigation.

THE RE-NATIONALISATION OF FORENSIC SCIENCE / POLICE IN-SOURCING

6. Over the last few years a number of forensic functions, which were initiated or developed by the FSS, have been moved either to the National Police Improvement Agency (NPIA) or into police forces. In addition, police have been expanding their own in-house provision on a small scale for some time.

7. On 17 January 2011 the NPIA finished running the second of its courses which aims to give accreditation to police staff with a view to them giving evidence in court; a role which has, until now, been undertaken by forensic scientists working within the “safe” environment of an FSP facility. Police forces that have sent staff on this course are shown in Table 1.

Table 1

| <i>Force</i> | <i>Numbers (to date)</i> |
|---------------------------|--------------------------|
| Lancashire Constabulary | 4 |
| Greater Manchester Police | 4 |
| Northumbria Police | 1 |
| West Yorkshire Police | 1 |
| Cheshire Constabulary | 1 |
| Thames Valley Police | 1 |
| Warwickshire Police | 1 |
| South Wales Police | 1 |
| Gwent Police | 1 |

8. The NPIA developed a National Footwear System, with a national footwear reference collection. Originally the FSS held the collection and it developed the Footwear Intelligence System, after separation from the Home Office. The NPIA’s subsequent system was modelled upon, and data taken from, the FSS system. Police staff are now conducting footwear intelligence analyses that would previously have been done by FSPs.

9. The National DNA Database (NDNAD), in its entirety, was developed and implemented by the FSS making the UK the first country in the world to have such a tool. In 2009 this was finally transferred to the NPIA.

10. The FSS was the first organization in the world to develop the concept of, and then a service around, familial searching of the NDNAD. The service included:

- Consultation throughout the service.
- Run an algorithm against the NDNAD to produce a set of potential candidates.
- Produce a statistical likelihood measure for each candidate.
- Produce a final report, to include a number of value-add features to assist in the investigation.

The NPIA have now introduced their own service which is “free” to the customer. This now means that most clients, because of financial considerations, will request only the algorithm process and the statistical output to be run by a FSP. The other value-add aspects of the service are sourced from the NPIA at no external cost. It is understood that the NPIA’s longer term aim is to “move single familial algorithm into in house”.⁵⁶ This will then close off all the revenue streams.

11. The FSS created the role of Major Crime Specialist Adviser (SA) which has been received extremely well by forces. The role requires experience and an in-depth knowledge of a broad spectrum of forensic techniques in order to develop and manage forensic strategies in high profile cases. A few years later, the NPIA

⁵⁶ NPIA’s Minutes, October 2009

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recruited two SAs who would be at the disposal of police forces that require such expertise and at no cost. These experts were recruited from the FSS's pool of "fee earning" SAs.

12. A number of police forces are beginning to recruit forensic scientists to undertake expert examinations. For instance, recently, Lancashire took on 2.5 FTE drugs scientists, and West Midlands is currently seeking a Senior Forensic Scientist as they are "*creating a Major Crime Response Team consisting of highly skilled forensic scientists working in the most demanding of situations, to provide a comprehensive forensic service*".⁵⁷ It is also our understanding that the Metropolitan Police Service has built up a substantial forensic science capability with, potentially, over 100 staff.

13. Forces recruiting their own scientists on a small-scale piece-meal basis run a number of risks in terms of serving the Criminal Justice System:

- Peer-checking of critical findings, interpretations and statements would be either not possible or less likely.
- Variability of policies, practices and quality standards between forces thus creating a postcode lottery.
- In-house work is less likely to be accredited or subject to outside scrutiny.
- Single or few individuals operating; this is inflexible to high demand.
- No critical mass of colleagues to assist in the most challenging cases.
- Junior colleagues more likely to be rushed into handling inappropriately complex cases.
- Less specialisation possible.

14. Consequently it is the contention that the statement: "*The police have advised us that their spend on external forensic suppliers will continue to fall over the next few years...*"⁵⁸ is true. But this drop in their spend, on external forensic suppliers, is partly explained by their increase spend in internal forensic capability; that is they are driving forensic science back into the public sector albeit piece-meal, uncoordinated and poorly regulated (police forces do not require accreditation to operate a forensic science provision whereas FSPs require it for forces to consider them when the tendering process is undertaken).

THE VALUE OF FORENSIC SCIENCE

15. Another cause for the decreased external spend is the police desire to make savings of around 20% to their budgets and a reduction in the external forensic spend is the result of an "across the board" approach. Currently 2,531 CSIs⁵⁹ examined 717,143 scenes⁶⁰ and, assuming they work 200 days a year, this averages out at 1.4 scenes a day! An average scene is a volume crime and would take about an hour to complete. Halve the number of CSI, which would give them a not unreasonable workload of 3 scenes a day, and all the scientific support units savings would be made without recourse to denying justice to victims by curtailing the external forensic spend.

16. The size of the forensic science diaspora is unknown by the authors. There is no reliable data about the numbers and costs associated with the police's public sector forensic scientists. The Police Objective Analysis (POA) gives data on the number of officers who perform in the police music band but not staff conducting forensic science functions. Such staff could be categorized as Administration, Fingerprints, DNA Bureau, Intelligence, Other, etc. This observation may explain why Lancashire, in the POA, has four times the national staffing ratio for Fingerprints/DNA Bureau to CSI.⁶¹

17. If one compares the Chartered Institute of Public Finance and Accountancy's (CIPFA) spend on Forensics Supplies and Services with the POA's Forensic Supply and Services, for those forces which have submitted data to both, there is a discrepancy of 27%, or just over £13 million. CIPFA data show the annual spend on forensic supplies for the following forces: West Mercia (recorded crimes 71,291⁶²) £4.24 million⁶³ and West Midlands (recorded crimes 211,399) £0.87 million. The data sets can be quirky.

18. Equally unknown is the number and cost of staff whom are indirectly associated with the administration of the forensic market activities. There are now a significant number of persons, within police forces and FSPs, who are responsible for tasks which did not exist 20 years ago, such as contract managers, submission managers and staff, marketing and sales offices, regulators, etc.

⁵⁷ <https://www.west-midlands.police.uk/wmprrecruit/vacancy.asp?token=7C818754EDED6DC8D5EEF94571B2320ABF4FF52C6C9466E0CE4B9555BE0D6E410A98BEA071D0FF6F784918F2> , accessed 21 January 2011.

⁵⁸ <http://www.homeoffice.gov.uk/publications/parliamentary-business/written-ministerial-statement/forensic-science-wms/>

⁵⁹ <http://www.hmic.gov.uk/PolicePerformance/Pages/Valueformoneyprofiles.aspx>

⁶⁰ <https://iquanta.net>, accessed 26 May 2010 and 22 Sept 2010

⁶¹ FP/DNA : CSI = National 1213 : 2436
= Lancs. 04:64

⁶² Source: <http://rds.homeoffice.gov.uk/rds/pdfs10/hosb1210chap7.xls> Accessed 20/09/10

⁶³ Source: CIPFA Police Estimates Statistics 2009–10.

19. For any meaningful decision to be made on the future of forensic science such information should be available, and should be creditable, to enable interested parties to model various scenarios. Without this data only speculation can be expected and ill informed decision made.

20. Police forces, in the *current* financial situation have decided to limit their spend on forensic science and we are aware of at least one force that will no longer submit fibre or glass evidence if it is in connection with a volume crime case, such as burglary and car theft, because it is viewed as poor value for money by the force. Both these tests can provide very strong supportive evidence for and against a defendant. It is the police force's inappropriate use of these tests which are producing their poor results not the test themselves.

21. A further worrying trend relates to the review of historic offences for new forensic opportunities. There are a number of forces that are attempting to carry out this function in-house and clearly do not have sufficient forensic knowledge to do so. This has resulted in very poor quality submissions to providers and thus no useful progress in these important cases. The perceived "saving" by Forces undertaking this work themselves actually results in a waste of public money, as it simply is not an effective method of forensically reviewing cases.

THE ADVANTAGES OF A CENTRALIZED COORDINATING FORENSIC BODY

22. The strength of the Forensic Science Service is its size and breadth of disciplines. This is slowly being eroded and should be reversed. Breaking up forensic science will create a lack of clarity, centralized information and knowledge pools.

23. The CEO of the Forensic Laboratory for Northern Ireland has said:

"One of the difficulties for outside bodies (be they customers or stakeholders) in understanding the optimal shape of forensic science provision, is that many of the interconnectivities are not obvious except to those who day in day out work with the complexities of actual casework.

It can sometimes seem to the external observer that forensic science is made up of separate stand-alone pieces of work, which can be farmed out separately to the lowest cost supplier in the pursuit of economies.

The majority of the work is however directly related to serious crime and such crimes are always unique. They may involve many diverse exhibits (some being submitted weeks or months after the event) which must undergo a planned sequence of diverse examinations under a forensic investigation strategy agreed and constantly revised with the customer. The number of exhibits and the overall complexity of each of these cases demonstrate beyond any doubt the value of a comprehensive, integrated, forensic science service."

24. The USA has struggled for many years with its disparate forensic provision and poor quality standards. Thus Congress authorized a study into the state of forensic science. The report, which was published by the National Academy of Sciences, concluded that "Congress should establish and appropriate funds for an independent federal entity, the National Institute of Forensic Science (NIFS)."⁶⁴ It is somewhat ironic that this is what England and Wales had in the form of the FSS 20 years ago, and what many other countries strive to achieve.

25. When the FSS was a government body it was able to make decisions which, at the time, were not regarded as money making but were desirable for the CJS. An example of this was the retention of case records and those exhibits not returned to police forces in a national archive. All new FSPs now routinely return exhibits and any "by-products" of the scientific examination. The FSS archives themselves contain well over 1.5 million case files and an even larger number of "retained materials" such as DNA extracts, microscope slides, fibre tapings, debris and occasional original exhibits.

26. With a fragmented service provision who, if there is to be commercial sensitivities and competition, will be responsible for collating current unsolved cases which may have a solution in the future with new techniques ie future proofing.

27. The police, on the other hand over the same period, have retained virtually no paperwork or exhibits for anything other than some homicides thus *they rely entirely on the FSS Archive to progress ALL cold case investigations*—that is, review work and "cold" National DNA Database (NDNAD) matches. (A "cold" match is a profile permanently loaded to the NDNAD which matches a newly loaded profile eg a profile from a rape loaded in 2002 may match with a newly loaded sample in 2010.)

28. Because of this unilateral retention policy the FSS has assisted more than 38 police forces in their reviews of historic offences, and has helped to secure convictions in over 220 such cases. In addition, the FSS has been the partner of choice for two large-scale Home Office sponsored projects—Operation Stealth and Operation Advance. At least 14 forces currently work with the FSS on large-scale longstanding projects to systematically and methodically review their undetected historic sexual offences; with many thousands of cases still to review between them.

29. Meanwhile the FSS has pioneered every major advance in forensic technology; in-depth knowledge of both the original examination techniques and the subsequent production of retained material are *crucial* in evaluating potential new forensic opportunities. No other provider has entire hands-on experience of techniques

⁶⁴ Strengthening Forensic Science in the United States: A Path Forward, National Academy of Sciences. 2009

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such as blood grouping and historic DNA profiling technologies such as multi locus probing, single locus probing, Human Leukocyte Antigen, Quad and SGM. Nor does any other provider fully understand some of our historic examination procedures or short-hand case notes which ultimately determine which samples are suitable for testing (and which samples are NOT). In addition, FSS scientists fully understand the labelling and continuity of its materials.

30. [* * *]

31. Furthermore, as forensic science becomes more fragmented in the UK it will become increasingly difficult to undertake similar projects on a national scale in the future; providers will hold varying or no records and it will become impossible to data-mine for information.

THE POSITIONING OF A PUBLIC SECTOR FORENSIC SCIENCE PROVIDER

32. Forensic science should be independent of investigators and it ought to be at the service of the courts. That forensic science should lie within the control of the Police Service is sure to produce protestation of bias. This is highlighted in one of the recommendations from the National Academy of Sciences report (ibid) Recommendation 4:

“To improve the scientific bases of forensic science examinations and to maximize independence from or autonomy within the law enforcement community, Congress should authorize and appropriate incentive funds to the National Institute of Forensic Science (NIFS) for allocation to state and local jurisdictions for the purpose of removing all public forensic laboratories and facilities from the administrative control of law enforcement agencies or prosecutors’ offices.”

33. Only an organization with a certain profit margin, or public funding, can “afford” to undertake research, develop products and implement them. If forensic science is broken up into too many pieces research and development will cease. For instance the fingerprint elements, which have laid in the domain of the 43 police forces, has had no new significant step changes produced, by them, in a 100 years (with the exception of a database search capabilities supplied by an American company). FSS researchers, in about six years, have managed to develop Probabilistic Fingerprints which is a potentially significant new way of analysing fingermarks.

CONCLUSION

34. England and Wales need a forensic science service of excellence and of last resort; that is an organization that can continue to research and develop new processes and procedures not solely in an academic vacuum but also in the application of real case work. In addition to the 220+ convictions secured in historic sex offence reviews, a number of historic undetected homicides were solved by the FSS using knowledge of historical scientific procedures together with technologies pioneered by the FSS. Although not a comprehensive list, these include:

Violet Dunderdale
Lesley Molseed
Norah Trott
Imraan Vohra
Mary Gregson
Roy Tutill
Hilda Murrell
Marion Crofts
Geraldine Palk
Norma, Samantha and Syretta Richards
Colette Aram

35. Further, what is to happen when there is a major terrorist outrage or similar? There is a need for one forensic body with all the disciplines, in sufficient quantities, to be able to react appropriately without having one eye on the financial “bottom line”.

36. Without a lead or centralising body, which lies outside of the provincial and parochial police overriding desire for “quicker and cheaper”, there will be a stagnation of forensic science in this country. To lose this cutting edge aspect will surely mean, once again, that the UK will become second-best and have to start to importing expertise from abroad.

Catherine Turner
Orlando Elmhirst

9 February 2011

Written evidence submitted by the Forensic Science Society (FSS 85)

In response to the announcement that a review of the government's decision to sell off the Forensic Science Service is to be undertaken, the members of the Forensic Science Society, which is the professional body for forensic practitioners, would like the committee to take note of their concerns on some of the terms of reference.

1. What will be the impact of the closure of the FSS on forensic science and on the future development of forensic science in the UK?

- Stifling of research and development seemed to be the biggest concern. Commercial companies and police forces may be unlikely to invest in expensive research. The Service has an internationally recognised reputation for excellence and has paved the way for ground breaking research in many areas. Furthermore it's collaboration with industry has led to the development of instrumentation which now forms the basis of well equipped laboratories world wide. The FSS is currently a partner in a 1.2M euro bid to the European Union under the Advanced Forensic framework initiative. It is uncertain whether a police force or commercial provider could devote similar resources.
- There would inevitably be a loss of experienced personnel to train and mentor. Many more senior staff would leave the profession altogether, which would leave a large gap in terms of experience and expertise. If new private laboratories are set up to deal with this their recruitment is likely to be from young and inexperienced personnel who will not have the benefit of the training input from senior practitioners.
- The loss of retained material poses a serious threat to future investigations. The Forensic Science Service houses a huge collection of samples and retained case files and materials. Ownership of databases and collections would be difficult to manage and distribution of these would entail huge risks which could easily lead to samples being lost and not available for cold case reviews.

2. What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

- If small companies and police departments are established there will be a considerable amount of pressure on the Regulator to ensure that the very high standards set by the Service are maintained.
- In terms of objectivity the feeling was that it would make little difference to the intellectual impartiality of the scientists. Constraints on the extent of a scientific investigation for financial reasons are far more likely to result in a biased interpretation.
- The effect of the removal of competition from the market place will be to compromise impartiality in that fewer providers may lead to the same organisation providing experts for opposite parties in the same case.

4. What is the state of, and prospects for, the forensics market in the UK? Specifically whether the private sector can carry out the work currently done by the FSS. The volume and nature of the forensic work carried out by police forces will also be examined in this light.

- Most perceived a potential risk if police forces take on cheaper and less experienced personnel in line with budgetary constraints. However it was realised that a lot of forces already do some work themselves and are aware of the need for regulation.
- It was generally felt that there is currently a lack of capacity in the private sector. Expansion of providers to deal with the extra work load would be costly and result in delays.
- It was also feared that there would be an emergence of small, ill equipped establishments that will offer services that are below standard in terms of depth and quality or that the less profitable areas of forensic science will be neglected.

5. What are the alternatives to winding down the Forensic Science Service?

A number of suggestions were put forward which included

- a major reduction in managerial personnel;
- the creation of smaller laboratories run by experienced specialists;
- reduce the cost of registration by transferring the cost to the individual;
- sell each laboratory separately;
- market the services including training outside the UK;
- rationalise the staff and equipment to increase efficiency; and
- follow the recommendation of the 2009 NAS report from the USA which supports a national forensic science institute with core funding from the public purse.

It was generally felt that the proposed closure was an ill thought out and regressive step which could compromise the quality of forensic science, inhibit research and development and could jeopardise its contribution to the criminal justice system.

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Members did not feel it was appropriate to comment on questions 3 and 6

Forensic Science Society

11 February 2011

Written evidence submitted by the Faculty of Forensic and Legal Medicine of the Royal College of Physicians of London (FSS 86)

WINDING-DOWN THE FORENSIC SCIENCE SERVICE

The Faculty of Forensic and Legal Medicine was established in April 2006 and has been founded to achieve the following objectives:

- To promote for the public benefit the advancement of education and knowledge in the field of forensic and legal medicine;
- To develop and maintain for the public benefit the good practice of forensic and legal medicine by ensuring the highest professional standards of competence and ethical integrity.

The Faculty includes three different professional groups:

- Forensic practitioners.
- Medically qualified coroners.
- Medico-legal advisers to the medical defence organisations.

We are grateful for the opportunity to comment on this proposal and wish to make the following observations:

- We have worked closely with FSS in developing best practice on forensic sampling and in some very specific circumstances;
- We do have some concerns that new developments may not occur as a consequence of the winding-down of the FSS;
- In our view it is absolutely essential that continued R & D takes place;
- The Faculty would draw particular attention to certain aspects of the FSS e.g. current and ‘cold case’ reviews;
- Their contribution to research e.g. database providing guidance on persistence data;
- Their reservoir of knowledge and expertise which although theoretically ‘transferrable’ may be problematic in practice;
- Whether there are sufficient other providers of forensic services to take up the work, which will now not be done by FSS;
- Will arrangements be made in relation to future collaborative working.

I hope these constructive comments are of assistance and you are able to take them into account in the review.

I confirm that we have no interests to declare and would be pleased to submit any additional information you deem beneficial.

Dr C George M Fernie LLB MB ChB MPhil FFFLM FRCGP DFM

Registrar

Faculty of Forensic and Legal Medicine of the Royal College of Physicians

16 February 2011

Written evidence submitted by the Royal Society of Chemistry (FSS 88)

The Royal Society of Chemistry (RSC) welcomes the opportunity to respond to the House of Commons Consultation into the closure of the Forensic Science Service.

The RSC is the largest organisation in Europe for advancing the chemical sciences. Supported by a network of 46,000 members worldwide and an internationally acclaimed publishing business, its activities span education and training, conferences and science policy, and the promotion of the chemical sciences to the public.

This document represents the views of the RSC. The RSC has a duty under its Royal Charter “to serve the public interest” by acting in an independent advisory capacity, and it is in this spirit that this submission is made.

EXECUTIVE SUMMARY

1. The Forensic Science Service (FSS) is a leading provider of analysis and interpretation of evidence from crime scenes and plays a critical role in the provision of forensic services from the crime scene to the court room. It works on more than 120,000 cases per year and employs 1300 scientists.¹

2. An integral role of the FSS is to retain and reinforce its leading position as provider of forensic science to the UK criminal justice system. They provide solution based expertise in analytical science and all criminal areas, as well as training. Their vision is to challenge the way forensic science services are delivered and who delivers them.

- If the UK is to maintain its position as a world leader in the provision of Forensic Science Services there must be continual investment in Research and Development.
- Research and development in the field needs to be on-going to keep ahead of the developments in criminal tactics including drugs and terrorist crimes. This will rely on ever increasing sophistication in forensic methodology. In order to continue the advances in the fight against crime and increasingly, terrorism, there needs to be research and development work to produce lower detection limits, enhance specificity of detection techniques and to ensure that new designer drug, and explosives residues can be detected.
- A properly resourced unit with specialist capabilities and advanced skills base must be retained in the UK.
- The UK is currently a world leader in the provision of forensic science services. This contributes to the scientific skills base in the UK and this advantage will be lost unless managed carefully. This may mean funding in a different way or splitting the service into a routine and a cutting edge arm.
- The quality of data must not be compromised by the drive for cost efficiency.
- The impartiality of future providers of data must be ensured.

3. The work of the FSS is predicated upon core values of objectivity, responsiveness, reliability, innovation and collaboration.

4. The UK FSS has a recognised track record, delivering 120,000 cases, attending 1500 crime scenes, processing 500,000 DNA samples and providing evidence in over 2000 court cases annually.¹

5. In providing this service, there is an interaction between the provider of the forensic service the police and other agencies. The provider of forensic data must be involved in an iterative discussion with the police to maximise the information from any crime scene. This requires a specialist ability to interpret data and offer suggestions and advice on how to use the data and to offer suggestions for looking at the samples in different ways.

QUESTIONS AND RESPONSES

What will be the impact of the closure of the Forensic Science Service on forensic science and on the future development of forensic science in the UK?

6. **It is a major concern that the closure of FSS would mean that the central repository of expertise in this field in the UK would be lost.** The FSS is an internationally recognised source of expertise in the field of forensic science. It has pioneered major breakthroughs in the field of DNA analysis² in the criminal justice system and has developed, and currently holds the world's first and largest DNA database. FSS currently provides forensic services to the 43 police forces in England and Wales. It also provides consultancy services to countries outside the UK. It has an unparalleled ability to solve problems, especially when addressing non-routine requirements.

7. **The loss of future advanced skills, specialist techniques and capacity to address non-routine requirements.** Forensic science must provide high quality data analysis and skilled interpretation of the data so that the correct conclusions can be reached. Additionally, maintenance of the chain of custody is critical, to ensure the integrity of the sample. There are two distinct areas of this data provision. They are: Routine analysis and specialist work. It is likely that the routine analysis could be carried out by other organisations which have sufficiently trained staff, rigorous quality control systems and can demonstrate impartiality. Sufficient in-house expertise to ensure that the correct services are requested and delivered must be retained. The FSS currently is the provider of many highly specialised services including the development of new advanced techniques and world class training services. The specialist work includes the necessary research required to drive forward the capabilities in the field and to ensure that the more unusual requirements can be addressed. This requires that a technical capability be maintained which may be utilised less frequently.

8. **An inability to ensure that the science is keeping up with developments in crime.** The FSS must keep up with developments in crime, including the detection and identification of new drugs and developments in terrorist activity. This means that research into new techniques and procedures is required to produce lower detection limits and enable new materials to be identified at much lower levels than is currently achievable. This data must also be delivered in sufficient time. A key function of FSS is to provide research in the field

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and to ensure that new technologies and procedures are available in the future. The ability to deliver these new technologies and developments will be compromised as commercial providers will not be able to invest in research and development unless there is an immediate financial return or unless the police service/government pays.

9. An erosion of the scientific skills base in the UK. The sector needs a supply of talented scientists who are capable of advancing the science. Forensic science is a field in which the UK is currently a world leader. Unless a planned alternative is implemented, the closure of FSS, would mean that the UK would suffer an erosion of its skills base in this area.

10. Pressure to reduce costs and compete has been a factor in the privatisation of UK water industry. Salaries in this sector are low (starting salaries £12,000). Temporary staff are paid at ~ £7 ph covering analyst duties, and in some cases replacing more senior staff to save costs. It is likely that this scenario would be played out in the forensic sector, further driving the erosion of the skills base and moving to a “tick in the box” service. This would have a detrimental impact on the UK’s position in this, and other scientific sectors. It would ultimately result in a smaller talent pool of highly qualified scientists available to UK PLC. This, together with the closure of the Pfizer R&D facility will send out the signal to students that good quality science in the UK is not important, which in the drive to create an innovative high value added economy is the wrong message to give to students.

What will be the implications of the closure on the quality and impartiality of the forensic evidence used in the criminal justice system?

11. There is a concern that the quality of the data will be compromised by the drive for efficiency and sample throughput. Private sector competition has resulted in some improvement in turnaround of routine results. Routine analyses may therefore be carried out more cost effectively. However, there must be a mechanism for ensuring that the quality of data provided by commercial laboratories be ensured and the expert interpretation of that data continues to be available.

12. Impartiality of data providers could be compromised. Spending cuts mean police forces have less money to spend on forensics consultancy and are taking this work in house. Police forces have advised that their spend on external forensic suppliers will continue to fall as forces seek to maximise efficiencies. This may mean that there will be pressure to cut corners leading to unsafe prosecutions. As the service fragments, the question of where the high level expertise and expensive equipment resides has to be addressed.

What are the alternatives to winding down the Forensic Science Service?

A properly resourced unit or units with the specialist capabilities and required skills base must be retained, possibly in the form of dedicated centres of national excellence which may be attached to universities. Keeping core functions which are profitable and disposing of more specialist peripheral functions is an option. The major concern is that any alternative must ensure that specialist skills and research capabilities will not be lost to the UK. The capability to carry out these specialist functions must be retained in the UK.

Royal Society of Chemistry

14 February 2011

REFERENCES

1. <http://www.forensic.gov.uk/html/customers/>
2. <http://www.forensic.gov.uk/html/company/history/>

Written evidence submitted by Research Councils UK (FSS 92)

1. Research Councils UK (RCUK) is a strategic partnership set up to champion research supported by the seven UK Research Councils. RCUK was established in 2002 to enable the Councils to work together more effectively to enhance the overall impact and effectiveness of their research, training and innovation activities, contributing to the delivery of the Government’s objectives for science and innovation. Further details are available at www.rcuk.ac.uk

2. This evidence is submitted by RCUK on behalf of the Research Councils listed below and represents their independent views. It does not include, or necessarily reflect the views of the Knowledge and Innovation Group in the Department for Business, Innovation and Skills (BIS). The submission is made on behalf of the following Councils:

Biotechnology and Biological Sciences Research Council (BBSRC)
 Economic and Social Research Council (ESRC)
 Engineering and Physical Sciences Research Council (EPSRC)
 Medical Research Council (MRC)
 Natural Environment Research Council (NERC)

3. Research Councils do not currently support forensic science research as a strategic priority. However, any forensic science grant proposal submitted to a Research Council from an eligible institution which is both within that Research Council's remit and judged by independent peer-review to be excellent would have the same opportunity to be awarded funding as a proposal from any other discipline.

4. EPSRC's Technologies for Crime Prevention and Detection Programme, which ran from 2002 to 2008, held an event in 2006 called *The future of forensics*,⁶⁵ focusing on the contribution that EPSRC-funded science and engineering makes to the development of forensic science. Also as part of the Crime programme, the Geoforensics and information management for crime investigations network⁶⁶ was established, which aims to find cutting-edge technologies that will help in future forensic investigations.

5. MRC does not directly fund applied forensic science research. It does however support basic biological research which may underpin the development of forensic science, such as Sir Alec Jeffreys' work on DNA fingerprinting⁶⁷ and research which informs the development of diagnostic technologies which may have dual application.

6. RCUK has worked closely with the Forensic Science Service on relevant programmes; it was a frequent project partner on proposals through EPSRC's Crime programme and remains as a partner on one current follow on fund grant.⁶⁸

7. In the event of any potential increase in research proposals experienced by the Research Councils in areas relating to forensic science as a result of the changes proposed by the Government, applications would be considered in open competition with those in other areas and those of sufficient quality would be supported.

8. Further examples of Research Council funding of forensic science including support for facilities and relevant expertise is provided at Annex A.

Research Councils UK

22 February 2011

Annex A

SOME EXAMPLES OF RESEARCH COUNCIL FUNDING OF FORENSIC SCIENCE

BBSRC and the Home Office held a joint Genomics workshop in November 2010 which aimed to identify: the current and potential capabilities of genomics and their implications for the Criminal Justice System (CJS); ethical issues these advances may raise; and bioinformatics. The workshop aimed to increase the engagement between forensic caseworkers and scientists in the genomics field.

Nanoconjugates for the detection of forensic residues

<http://gow.epsrc.ac.uk/ViewGrant.aspx?GrantRef=EP/G005850/1> (Follow on fund—finished 2010)

Development of complementary technologies for forensic and security screening

<http://gow.epsrc.ac.uk/ViewGrant.aspx?GrantRef=GR/S63045/01> (finished 2007)

Network to Develop Applications of Stable Isotope Mass Spectrometry in Forensic Science & Crime Detection

<http://gow.epsrc.ac.uk/ViewGrant.aspx?GrantRef=GR/R72426/01> (finished 2005)

Development of Novel High Sensitivity and Specific Methods to Provide Reliable Forensic Evidence of Drug Administration in Vulnerable Groups

<http://gow.epsrc.ac.uk/ViewGrant.aspx?GrantRef=EP/C533437/1> (finished 2008)

Science in a legal context: DNA profiling forensic practice and the courts

<http://stage.esrc.ac.uk/my-esrc/grants/R000235853/read>

Various laboratories at British Geological Society (BGS) have contributed to forensic geosciences, eg

<http://www.bgs.ac.uk/laboratories/biostratigraphy/home.html>

Data from BGS's digital "Parent Material Model (PMM)" is being assessed for its use in forensic science

http://www.bgs.ac.uk/science/landUseAndDevelopment/sustainable_soils/parentmaterialmap.html

⁶⁵ <http://www.epsrc.ac.uk/newsevents/news/2006/Pages/futureofforensics.aspx>

⁶⁶ <http://gow.epsrc.ac.uk/ViewGrant.aspx?GrantRef=EP/D041473/1>

⁶⁷ <http://www.mrc.ac.uk/AchievementsImpact/StoriesofImpact/DNAresearch/index.htm>

⁶⁸ "Commercialisation of Lab-on-a-Chip technology for DNA profiling" <http://gow.epsrc.ac.uk/ViewGrant.aspx?GrantRef=EP/H007385/1>

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BGS palaeontologists have provided forensic science consultancy services
<http://www.bgs.ac.uk/science/biostrat/Consult.html>

Fingerprints hide lifestyle clues
<http://news.bbc.co.uk/1/hi/technology/4857114.stm>

Shoeprint analysis to fight crime
<http://news.bbc.co.uk/1/hi/technology/4857756.stm>

Written evidence submitted by GeneWatch UK (FSS 93)**FSS CONTRACTS WITH THE UNITED ARAB EMIRATES**

I write regarding the contracts between the Forensic Science Service (FSS) and the United Emirates, which relate to the construction of a DNA database of the entire population of UAE. I have today written to the Foreign Secretary urging the immediate cancellation of these contracts. I would appreciate it if you would consider the relevant issues in your current inquiry into the future of the FSS, including the actions of the previous government when the original contracts were signed and any response made by the current government.

I enclose a copy of our press release regarding these contracts and the relevant parliamentary question containing details of the contracts. Further information is available on the GeneWatch UK website at: <http://www.genewatch.org/sub-566821>. I also enclose a copy of an article published by the Public Service website today which reports the FSS response to our concerns. http://www.publicservice.co.uk/news_story.asp?id=15744

GeneWatch UK, the Council for Responsible Genetics (USA) and Privacy International are seeking to ensure that international standards are established to protect human rights when DNA databases are established. We have serious concerns about the implications of a universal DNA database in UAE for human rights, including the rights of dissidents and women. In our view, the FSS's response falls far short of what is necessary in such circumstances.

Dr Helen Wallace
Director
GeneWatch UK

11 March 2011

Written evidence submitted by Mike Barber (FSS 94)**DECLARATION OF INTEREST**

I am employed by the Forensic Science Service. These are my personal views.

SUBMISSION

What will be the implications of the closure on the quality and impartiality of forensic evidence used in the criminal justice system?

1. There is a danger that a large number of the most capable and experienced practitioners will be lost from the industry. If this happens it would constitute an irrevocable step towards forensic science becoming a fragmented, product based and cost driven activity with serious implications for crime prevention and the quality of justice. Please do not underestimate the expertise required to effectively evaluate and present moderately complex to highly complex forensic examinations and the value that this provides to society. Although the FSS currently has around 65% of market share it contains a much higher proportion of scientists at the top end of the profession. In forensic science our biggest asset is experienced and knowledgeable people who in addition to their own casework spend a good proportion of their time checking and guiding the work of their colleagues and acting as mentors in the development of the experts of the future. They are instrumental in maintaining the quality of outputs to investigators and the courts. A significant loss of expertise will reduce the effectiveness of police investigations and increase the potential for the courts to get it wrong. Any solution to the regulation and structure of the forensic market should aim to minimise the loss of expertise.

2. My second point does not fit neatly into the terms of reference but I raise it because it is of fundamental importance to decision making about the future provision of forensic science in the UK. If we are to make significant cost reductions in the policing/forensic sector, it is particularly important that efforts are made to understand the cost effectiveness of forensic science methodologies relative to other forms of police investigation and evidence gathering. I imagine it is a relatively easy choice for police forces simply to reduce their spend on forensic science and this has already had a major impact on numbers of forensic submissions, but, is there any assurance that forces understand the value for money that forensic science provides relative to other forms of investigation? Do forces understand the extent to which they will incur other costs to fill the gap? Do we understand the impact reduced forensic input will have on the detection and prosecution of

criminals? Where there is a reduction in prosecutions do ministers understand the impacts this will have on crime prevention and public confidence?

Mike Barber
Principal Scientist
Forensic Science Service

18 March 2011

Written evidence submitted by Alan Field (FSS 95)

I was interested to read in *The Times* earlier this week that you are involved with a Parliamentary committee looking at the future of forensic and scientific expert evidence within the legal system. I am not an expert witness myself but, as a management systems consultant and assessor, I have audited a number of built environment and legal consultancies that are involved. I consider that there are some comparatively straightforward things that could be done to prevent potential miscarriages of justice, remembering that civil as well as criminal litigation can sometimes rest on such evidence.

1. In the USA, under the Federal Rules of Evidence (FRE) the “Daubert Standard” normally applies to all scientific (including clinical and forensic) expert evidence. One of the “Daubert” requirements is that all such evidence must be capable of peer review ie if a similar code was adopted here then evidence presented by companies who claimed the methodology used to achieve results was commercially confidential would simply be inadmissible. This seems a simple and obvious change that could be made to English Law. I do not know enough about the American system to say if lawyers find exceptions to these Rules but if we implemented this change in our jurisdiction then it would likely encourage both the prosecutor or plaintiff and defendant to test their own expert evidence before pursuing a case with it.

2. The prosecution or plaintiff should be obliged to present—as part of their evidence in chief—the probability of their expert evidence not being valid or declaring any alternative analysis that would throw doubt on their opinion ie it should not be left to the defence solely to do this and, of course, the same obligation could be put on defence expert opinion in civil matters.

3. This could be augmented by changing the system we have under English Law whereby a member of the Bar or a Solicitor-Advocate can usually present a case where expert, scientific opinion can be offered to the Court with possible knowledge that there may be limitations to its conclusions or a credible alternative analysis, on the basis that it is the other side’s responsibility to put those views or, indeed, the expert themselves as they owe their first duty to the Court and not the side paying them ie it should become professional misconduct for a lawyer to withhold such an alternative analysis or present evidence that has not been subject to peer review (or an acceptable alternative to the Court).

4. The other obvious change is to follow what happens in some Continental legal systems in that—especially where a jury is involved—there is pre-trial hearing before the Judge alone to determine whether the scientific opinion is valid before it presented in open court. The scientific validity of the evidence—such as the probabilities and sampling techniques involved—could be tested at this point. It would still leave it open at the trial itself for the jury or a Judge alone (in civil matters) to decide upon the facts presented, including the expert opinion. Again, the pre-trial review might encourage either side to drop evidence that is doubtful. There could be an appellant process where either side disagrees with the Judge’s direction could take the matter further before trial. In criminal matters, there could be a safeguard that defence expert evidence could always be presented to the jury. As you know, this wouldn’t be such a departure because in some civil cases the Court already appoints one agreed expert for both sides and both sides are usually required to share information with the agreed expert.

Alan C. Field MA, LL.B (Hons), PgC, MCQI CQP, MIIRSM, AIEMA, GradIOSH, GIFireE
Chartered Quality Professional and IRCA Registered Lead Auditor

25 March 2011

Written evidence submitted by Alan Whittle (FSS 97)

I work in the Contracts Management Team for Forensic Procurement for the West Coast Consortium of Police Forces, specifically representing the South West and South Wales Police Services. In the course of my employment I have been following closely the work of the Select Committee you Chair and am concerned that some of the oral evidence given to the Committee may be inaccurate.

It was stated by representatives from the Forensic Science Service that spend on externally procured forensic services to the police in England and Wales has shrunk from £170 million to £110 million within the current year. A representative of ACPO stated that he felt that the reduction in spend represented the likely position for the forthcoming year. Neither representative offered actual figures from validated sources at the time they gave their oral evidence to the Committee. The Forensic Services Manager for the Metropolitan Police stated

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unequivocally that the external spend on forensic services for London was unchanged in the current year, compared with the previous year.

These pieces of evidence seem contradictory.

Actual figures for the forces which I represent show only a slight downward trend in case submission rates and average case costs over the last two years for which we have data.

In paragraph 26 of the written evidence to the Committee, Minister of State James Brokenshire MP stated:

“The forensics market has drastically shrunk in recent years, from around £170 million in 2009 towards a projected figure of around £110 million by 2015”.

I am sure it has not avoided your notice that the spend figures given by Mr Brokenshire and much of the oral evidence are the same, although Mr Brokenshire’s timescales vary considerably from those giving evidence. Is there the possibility that the source material from which Mr Brokenshire obtained his data has been misinterpreted by those offering evidence to the Committee?

Alan Whittle

Forensic Contracts Management Team
Avon and Somerset Police Headquarters

30 March 2011

Written evidence submitted by John Welch (FSS 98)

1. I have 39 years case-working experience as a forensic scientist and I am one of those made redundant from FSS Ltd in the summer of 2010. Parliament Television has allowed me to view the oral evidence received by the committee on 30 March and a week earlier.

2. Before considering some details of that evidence I ask you to consider the most fundamental aspect of financing forensic science in England and Wales. Forensic science is used overwhelmingly in support of the criminal justice system; criminal investigations are initiated by the police and other agencies such as HMR&C and are funded by the taxpayer; FSS Ltd was closed because it was losing £2 million per month and that was an unacceptable charge on the taxpayer; had FSS Ltd been making a profit of £2 million per month that could only have come from the police and other government agencies and the charge on the taxpayer would have been exactly the same.

3. You and the committee will have heard much about the forensic market. Various reports have stated “the market is immature”, “the market is fractured”, “the market is not yet mature”, “the market is broken”. All those are euphemisms for the true description—“the market does not exist”. How can a market exist when there are three major suppliers and about five customers? (The customers being the constabularies who have grouped into cartels—something that would be illegal in a true market.) Contrast that situation with that which exists in the supply of domestic groceries: four major suppliers (the big supermarket chains), several smaller suppliers, and about 20 million customers in the form of individual households. And yet there are regular calls for inquiries as to whether that market is truly competitive!

4. I urge you to consider the vested interests of those who spoke to the committee. Bill Griffiths was largely concerned with avoiding responsibility for the demise of the company in his charge. You will have noted how evasive he was when questioned about directors’ remuneration increasing as revenue went down. The gentlemen from Cellmark Diagnostics and LGC Forensics were simply trying to get as much taxpayers’ money as possible for their respective companies. Professors Jeffreys and Fraser have a level of independence conferred by their academic positions and their views carry weight. Professor Jeffreys is particularly pertinent with regard to long-term research—he is a research academic whose introduction to matters forensic was serendipitous. (A factor which indicates that forensic research is best done with the involvement of case-workers.) Professor Fraser is pertinent with regard to case-work, case-management and the day-to-day reality of forensic science; he has worked in those areas and is highly regarded. The committee should pay attention to his views.

5. A number of incorrect assertions were made to the committee.

- (i) “Fragmentation of cases” either hadn’t occurred or wasn’t a problem.

There is no doubt that fragmentation has occurred to the detriment of investigations. Some exhibits go to one supplier; other exhibits in the same case to another. Recently, investigators from HMR&C arrived at the Lambeth Lab of FSS Ltd with suspected drugs and their packaging materials for examination. The further request for handwriting comparisons in that case could not be met because that part of the HMR&C contract had gone to another supplier. (And no one involved at that time could say which one!) Fragmentation is a serious problem. In complex cases there is often a need for a sequence of different, specialised examinations to be undertaken on the same exhibit and that can only be done effectively by a supplier offering the full range of examinations. Professor Fraser commented that forensic science is best used as an integral part of the investigative process that gives

rise to the legal process. That does not entail bias in favour of the prosecution because the forensic science has the potential to exonerate as much as to convict.

- (ii) International cooperation had not been hindered.

It certainly has been. As one example, the “DISCS” forensic database developed by the Netherland forensic institute is freely available to all forensic organisations which are part of a government’s infrastructure. It has been denied to England.

- (iii) International case-work was an area of possible expansion.

International case-work is never going to be financially viable because of the need to support evidence from the witness box. It may be cheap to fly a cargo container of suspected drugs to a distant laboratory but flying expert witnesses in the other direction is very expensive indeed.

- (iv) Roger Coe-Salazar from the CPS spoke of the number of guilty pleas obviating the need for forensic science.

The honest way to bring about a plea of guilty is to demonstrate to the accused the strength of the case. The advice to an accused from the defending solicitor is always “wait until you see the evidence”. Time and time again in recent years I have taken telephone enquiries from investigators seeking examinations as a matter of urgency because the case preparation was done with excessive economy and the CPS anticipated a plea of guilty.

6. From very small beginnings the National Police Improvement Agency has grown like Topsy, assumed the right to be involved in every aspect of law enforcement, and has used vast amounts of taxpayers’ money to no obvious benefit. As an example of its ineptitude consider the National Forensic Framework Agreement produced by the NPJA to be the model for contracts between constabularies and forensic suppliers. That requires forensic suppliers to word conclusions in statements, in all areas of forensic science, using phraseology which the court of appeal has stated repeatedly should be used only for DNA profiling. (Please check with the appeal court judgement in “the case of T” which can be seen on the website of the Forensic Science Society).

7. Gary Pugh is head of Scientific Support at the Metropolitan Police. The police have always had direct responsibility for scene-of-crime work and for fingerprint examinations and it is inevitable that there will be pressure to set alongside those responsibilities those bits of forensic science which are a particularly good fit. The criminal justice system and the taxpayer would benefit from that. A member of the committee suggested that a small police laboratory could not provide the full range of examinations and Mr Pugh agreed. The unfortunate current situation is that no forensic laboratory in the country can offer as full a service as that provided by the Metropolitan Police Laboratory for nearly thirty years prior to 1996.

8. A few years ago a director of the FSS told a meeting of staff at the London laboratory that one of the reasons that some sort of privatisation was necessary was that the government was unwilling to provide the £30 million needed to build a new London laboratory. Since then the FSS has spent £10 to £20 million on external consultants, has required the government to fund £50 million of redundancy payments with at least another £50 million of redundancy still to come, and a new lab for London is as far away as ever. In a nutshell, well over a hundred million pounds has been spent to destroy a world leading forensic science organisation whereas spending less than half that would have maintained it. (Incidentally, why are people appointed to directorships if they need to ask consultants what to do?)

9. A view that seems to be widely held is that forensic science has to be a commercial activity because EU regulation requires government services to be contracted out. However, Germany has federal and state forensic labs funded by its taxpayers; the Netherlands has a forensic institute funded by its taxpayers; France has a variety of forensic labs funded by its taxpayers; as do Italy, Denmark, Sweden, Finland, Lithuania, Latvia and Poland. Every country in the world sufficiently developed to have an organised system of criminal justice has some sort of forensic science paid for directly by government. What makes the government of England think that everyone else has got it wrong?

John Welch

11 April 2011